

Computer Weekly

Thursday, July 7, 1983

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US trade war carries on

by Kevin Cahill
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Foreign Office officials last Friday told a group of US correspondents that there is no dispute between the two countries.

But the Foreign Office has also admitted that it is asking the US Department of Defence to prove its allegations that the UK is the largest computer country in terms of illegal computer shipments to the Eastern bloc.

The Department of Defence says that so far it is unaware of the Foreign Office request. A spokesman said that if requested the US is happy to provide proof of the problem.

He added that there is a special problem with relation to the UK. A number of computer systems shipped to the UK were diverted to Bulgaria and Yugoslavia recently.

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Integrated circuit testers and photo-resist machines labelled for the UK and Spain had been diverted to Poland, Rumania and Bulgaria.

The Department of Defence spokesman was actually quoting testimony by the Under-Secretary of State for Defence and Trade Security, Richard Pearle, who gave evidence recently before the Armed Services Committee of the US Senate.

While the US maintains this attitude, and its offer to correspondents to show detailed pictures and photographs either late this week or early next, the Foreign Office's position is inconsistent, but may represent an attempt to calm down in public what is in fact a major row in private.

The US offer to show or present detailed information of the leakage of technology via the UK guarantees that whatever the Foreign Office does the row will become public.

Query hangs over Esprit finance

by John Riley
A QUESTION mark hangs over the financing of Esprit, the European Community 1987-1990, 10 year research programme proposed recently in Brussels.

Although Esprit's passage from proposal to approval is likely to be remarkably speedy by EEC standards, as national politicians, Euro-politicians and Euro-critics are all giving it top priority, there are fears that its funding will get caught up in the larger budgetary crisis that the EEC is currently facing.

"Esprit is warmly supported by Parliament," said Euro MP Fernand Herman, who takes an active interest in IT matters, "but our worry is that although the Council of Ministers has approved it in principle, it has not decided how to finance it, and is relying on a solution of the total budget problem." The EEC is currently undergoing a budgetary crisis.

"We don't see a solution under the Greek Presidency of the EEC, and Britain's insistence on rebate is causing problems. The 1983 budget has the cash to start the Esprit project and we hope that we will get the necessary amount for 1984 by the end of the year."

The main programme has to go before the European Parliament and be evaluated by its Economic and Social Committee before gaining approval at the European Council in Athens on December 6. An informal meeting of Europe's IT ministers held last week indicated there would be no problems with the programme, which concentrates on five main areas: advanced microelectronics, software technology, advanced information

processing, office automation and computer integrated manufacture, has been criticised by smaller European computer companies.

They say all the emphasis is in long term research and complain there is no input for marketing and developing products. Many small companies did not tender for pilot one year contracts which are currently being announced, because they cannot afford to pay 50% of the cost of long term research.

Imperial Software Technology is one small company that did tender for a pilot contract.

"The research is what we would have been doing in any case," said senior manager Mark Dawson. "We would prefer 90-100% funding and work at the pre-competitive end of this without worrying about sharing research. With 50% we are forced to be concerned about proprietary rights, or some kind of pro quo."

The £14.4 million (23 million ECU) pilot programme, which will be 50% funded by industry will involve several British companies and institutions including ICL, GEC, Plessey, and the Universities of Southampton and Newcastle.

All the participants have to be members of co-operations including at least one foreign concern. ICL is teaming up with Italian, German and French companies in a two million ECU contract to study the basis for a portable communications tool environment. Another two million ECU is to go to a consortium including ICL, Honeywell, Siemens and Olivetti to study Unix based open system telecommunications. Half of the cash will be put up by the EEC.

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In the United States Computerland dealers are free to make their own arrangements with Apple.

The dropping of Apple is even a small group of Computerland stores is sending shock waves through the retail micro-distributors.

Dealers have recently been by the price war at the low, which has caused many Texas Instruments a 10% loss in this quarter.

The price war is focused machines at the level of the Sinclair Spectrum, and is expected to spread to the Apple II soon.

According to an analyst at Yankee group, the arrival of the Pentium will instigate a new round of price cutting at the level of the Apple II, Tandy TRS-80 and Commodore Pet.

The Pentium is expected to be priced at \$600 or below and is expected in the market before small business system from Apple costing \$500 and due late in autumn.

ICL beats IBM to water contract

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ICL HAS beaten IBM and Prime to £3 million worth of business from the UK's largest water authority. The deal gives ICL responsibility for the DTP requirements of seven of the 10 UK authorities. A 2966, CARS-ISP and dual 2988 are to be installed at Thames' HQ at Reading.

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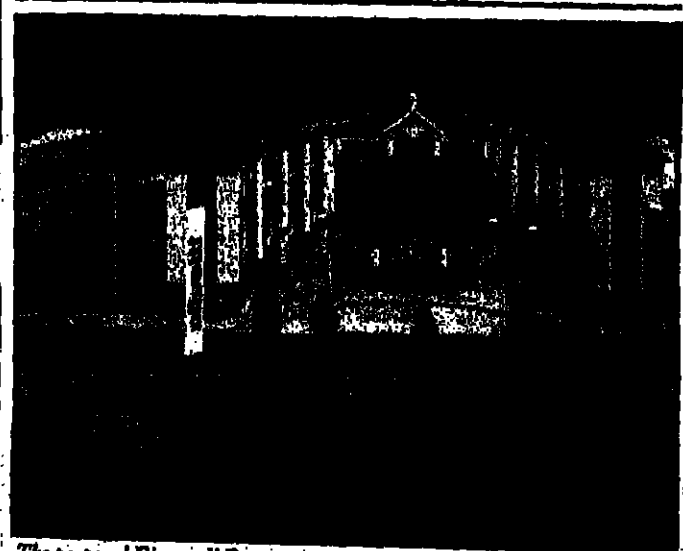
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According to Ratcliffe, ICL won the business on two counts: availability of software and ease of conversion of existing technical applications. The decision means the loss of a prestigious account for IBM, which currently provides

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The Italian office computer manufacturer has formed an unlikely partnership with British Rail, the Greater London Council and the London Borough of Wandsworth to turn BR-owned East Putney tube station from an eyesore into what has been nicknamed the Piazza di Putney.

The station is right across the road from Olivetti's UK headquarters. And little work has been done on it since it was built in 1889.

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The director of the centre, Anne Brooking, expects the project to run for five years at a total cost of £1 million, absorbing 40 man

years of effort. She said: "This will give Britain a leading in the technology for the new age."

The first phase of the project will look at man-machine interfacing and will deal with items like graphics, symbols and other means of communicating with computers. The second phase will involve detailed research into existing hardware.

Scicon is joining the Belgian Institute of Management, the Stuttgart Fraunhofer Institute and Scicon's German sister company SCS in a five year programme to build a prologue base and to establish the tools and structure for building knowledge based systems emphasising natural language interfaces. The first year's funding of £300,000 has been approved and the consortium will put up 50% of the cost.

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The uneasy relationship between the two sides is highlighted by the NCC's annual report, published last week. Chairman James Merriman wrote that last year was one of "increasing opportunity and increasing competition".

This issue first boiled up in the mid-seventies when government funding for the NCC changed from a direct grant to backing for specific projects. At that time the NCC started relying more on sales - and last year almost £5 million of the total £8 million income was from this external business.

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NCC director David Fairbairn also pointed to the close contact with the CSA. He said the NCC did not compete unfairly; it charged market rates. The NCC put up half the funds for its projects, so its profits were used in the national interest, he said.

The NCC's lawsuit against Filetab Support Services over the Userlab and PSS development languages cost it over £38,000 last year, the annual report shows. These legal fees and a loss of £39,000 on an undisclosed development contract turned the NCC's £45,000 operating profit into a £32,000 loss.



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Datapoint will merely co-exist with the joint venture subsidiary but informed sources say that Datapoint is anxious to establish a foothold in the European computing business, especially in France.

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The 300-series workstation also comes in a version with synchronous communications allowing it to act as an IBM or ICL terminal. Vlieland-Boddy expects to sell 10,000 to 15,000 units next year.

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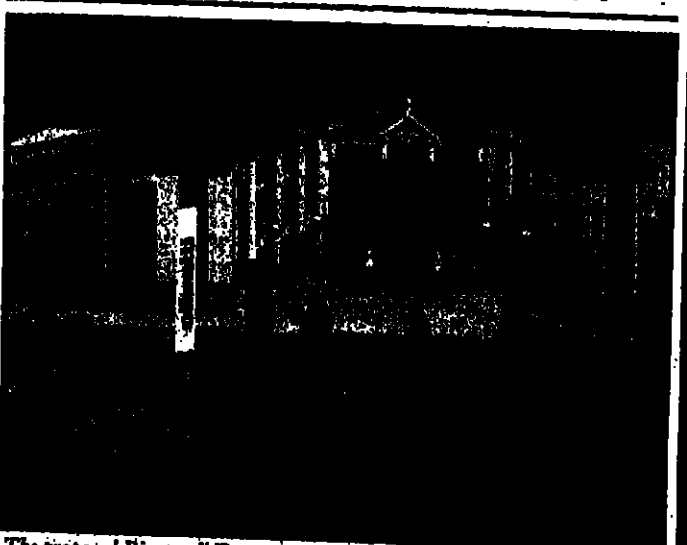
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Queen's man accuses the government

by George Black
GOVERNMENT has been accused of breaking international rules by favouring ICL in a major university contract to be placed this week.
The row threatens to re-open the wounds of foreign manufacturers who were furious at ICL getting the £40 million PAYE job in November 1980. ICL was awarded the mainframe contract with the Inland Revenue two months before Common Market rules came in demanding open competition.
Now the professor of medical statistics at Queen's University, Belfast, Tony Greenfield, has accused ICL of "colluding" with government officials to secure a deal which will replace its 10-year-old ICL 1900s. He said the university had wanted to buy a Honeywell DPS 8/70 system using Multics software, but the Treasury's central computer and telecommunications agency had "colluded" with ICL to make it take an Esterline machine.
Greenfield has written a letter of complaint to Chancellor of the Exchequer Nigel Lawson. And he is urging university vice-chancellors Peter Froggart not to sign the ICL contract.
ICL expects to get a copy of his letter to Lawson and its lawyers will be looking closely at it. A spokesman said: "Rest assured it won't be allowed to lie."
Lawson is said to have passed the letter to Barney Hayhoe, Treasury minister for the CCTA, for decision.
Greenfield said: "We dropped ICL from our shortlist, but the university's computer board told us to put it back. The CCTA said

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Paradyne plans to profit in Europe

by Donald Kennett
US DATA communications company Paradyne has big plans for expansion in Europe.

European vice-president David Crofts said: "At present we do only 10% of our business outside the US. We intend that to be 40% as soon as possible."

The company has been trading in Europe over the last five years through Ericsson and CASE. Ericsson has won significant orders in West Germany with Paradyne modems, particularly on international circuits where it has been able to sell the Paradyne 16Kbit-per-second modem directly to private companies that were previously using 9.6Kbps modems. The German Bundespost maintains a monopoly on the supply of modems for inland use.

The relationship with CASE is a partnership in which CASE builds Paradyne circuit boards into its own equipment and Paradyne manufactures CASE's DCX switching multiplexers under

licence in the US.

Last week the European division took extra space for its head office in Windsor and by the end of the year it plans to open an additional office.

"The new facility will be for software not hardware," said Crofts. "The real added value is much more in software and services than in manufacturing and as time goes on it becomes much less important to have manufacturing than development." The company plans to start manufacturing in Europe in the next 12 to 18 months.

Meanwhile, the company wants to expand through direct sales to users, as well as by signing up more OEM customers, distributors and partners in joint ventures. Most of its 41 distributors are in the US, but 12 are in Europe. Some are substantial manufacturers in their own right, for example Ebit in Israel.

"We have set up direct sales operations in the UK, West Ger-

many and Japan," said Crofts. "In other countries we are signing up distributors with an agreement that allows for Paradyne to take over all or part of the company as a subsidiary in the future."

The total European staff was 40 at the beginning of the year, is 60 now and is expected to be 80 by the end of the year.

The company was started by two engineers in an office over a ladies' hairdresser in Tampa, Florida, in the late 60s.

It was 1974 before either of them realised that growing and making a profit were necessary, but shortly after that they took on Robert Wiggins as president.

From 1977 to 1979 turnover tripled and from 1979 to 1981 it grew by 50% a year.

Last year it was \$207 million with \$27 million after tax earnings. This year it plans to spend \$20 million on research and development and 400 of its 3,200 staff are employed on R&D.



CROFTS... Intends that 40% of business should be outside US.

Frost and Sullivan make 1983 forecast

by George Black

THE year 1983 will be the year of the videodisc - this is the rather late prediction from New York business researchers Frost and Sullivan, who say that the computer giants are set to create a boom for videodisc software.

IBM, DEC, Apple, Data General, NCR and Texas Instruments may be about to launch into the market for microcomputer and videodisc integrated systems at breakthrough price levels, according to the study.

By the end of the year point-of-sale systems will be standard in computer stores and will have begun to spread through all American shops, it argues.

This will provide the base for the videodisc boom.

* The Interactive Videodisc Software Market, 288 pages, from Frost and Sullivan, 104-112 Marylebone Lane, London W1M 5PU, \$1,275.

DEC extends its cures from a console to French Riviera

by Jack Gee

DEC HAS increased its remote diagnosis potential for computer failures in Western Europe by opening a centre at Valbonne on the French Riviera to supplement the capacity of its Basingstoke centre, opened in January 1980.

The centre will be linked to 2,500 DEC computers, principally Vax and PDP-11/44s into which remote diagnosis capability has been built at the design stage.

The Basingstoke centre serves 1,750 systems installed in the UK and Northern Europe.

DEC says it has chosen the Sophia-Antipolis high-technology industrial park at Valbonne to extend its remote diagnosis operations because of the high standard of the French telephone network.

DEC's first centre of this type went into operation in 1977 at Colorado Springs in the US and is

linked to 10,000 American and Canadian computers.

Connection to the Valbonne centre is not compulsory for customers.

But those who refuse the service are required to pay a 10% surcharge for maintenance. Remote diagnosis is provided free of charge, except for rental of a direct telephone line whose performance is checked once a fortnight.

The Valbonne centre, which will operate around the clock throughout the year, is equipped with three PDP-11/70 computers. These contain files on customers' machines and include detailed configurations, breakdown histories and preventive maintenance planning.

DEC is planning long distance modification of basic software and transmission of software within a few years when transmission speeds can be raised from today's

300 bauds to 1,200 and up to 9,600 bauds.

This will permit rapid updating of microcodes and diagnosis of network problems involving groups of customers. Systems, interfaces, modems and telecommunications links will be tested in this manner. No target date has yet been set by DEC for this new service.

The establishment of the remote diagnosis centre is a new step in DEC's European decentralisation policy. DEC hopes to create a factory in France which would become its fifth in Europe.

In 1976 President Valéry Giscard d'Estaing turned down a proposal by DEC to build a French plant. DEC is now involved in talks with the socialist government of President François Mitterrand and with French firms who might show interest in developing peripherals, software and computer terminals.

HP brings three minis to its IBM battle

by John Riley

HEWLETT-Packard announced the results of its massive organisational shakeup aimed at beating IBM at the lower end of the market last week as it launched three new replacement minicomputers for its HP 3000 series.

The company has moved from its small division approach over the past six months and harnessed its numerous divisions into five cohesive groups. One of these groups, the Business Development Group, is now co-ordinating all HP's computer marketing to beat IBM at its own game.

"We have had the products, but IBM has had a superior selling, marketing and support organisation," said Roger Cooper, HP's European sales manager in Geneva last week. "We have now moved from being a product oriented company to a marketing company, with a non confusing interface through the BDG to get the message across effectively to our customers," he added. "We have respect for IBM, which is the first stage in beating them."

The full force of HP's new aggressive style marketing strategy will be felt immediately in the HP 3000 minicomputer arena. Last week the company announced its fifth release of MPE, its multi-programming executive operating system, which offers increased code tables, disc coaching capability, and three new minicomputer to replace older machines.

The new top of the range machine to replace the Series 64 is the Series 68, which the company claims has between 30-100% better performance. With up to eight Mbytes main memory, eight tape drives, 24 400Mbyte disc drives and 24 intelligent network processors, the company claims that up to 400 terminals can be logged on and that over 200 terminals can be used actively simultaneously with no significant performance degradation.

MICRO NEWS

Intel's low power 8086 is here

THE low power version of Intel's 8086 16-bit processor has arrived. The CMOS design from Harris Semiconductor, spawned by a technology exchange agreement sealed in June 1981, is now being sampled worldwide, with European volume delivery from Harris promised for September.

But the CMOS chip, which uses only 10% of the electrical power, of its NMOS forerunner, is unlikely to hit the really high volumes needed to satisfy the commercial marketplace until Intel comes on-stream with its version of the CMOS design, expected in about a year's time.

A CMOS version of the 8086's externally eight-bit brother, the 8088, is scheduled for the first quarter of next year.

The CMOS processor, 80C86, joins a bunch of CMOS peripheral chips from Harris allowing complete CMOS systems to be assembled. The power savings and ability to withstand harsh environments inherent in CMOS chips make them appealing to builders of portable equipment and military and industrial control kit.

And the 80C86 is only the start of the line of high performance CMOS processors. The agreement between Harris and Intel was that Intel would provide design and test information to Harris to design CMOS 8086 and 8088 parts,

which Intel would then build as an alternate source.

But beyond this was a commitment by the two companies to work closely together on future devices, and to make the two companies' CMOS processes compatible, so that the same designs could be built by both companies.

This process compatibility is starting now with the 80C86, and will continue to move closer as the companies work together.

The most obvious processors to appear next in CMOS versions are the IAPX 186 and 188, which extend the 8086 instruction set while integrating many peripheral functions on to the main chip. This reduces the chip count in a system, saving board space - and so cost - and enhancing reliability, again features likely to attract makers of portable kit.

Announcements by Intel and Harris on the next designs to be moved over to CMOS are likely in two or three months. Intel has already stated its intention to design all future devices in its CMOS technology.

The Harris 80C86 processor is directly compatible with the existing NMOS design. It has pin-for-pin similarity, the same TTL level input/output specifications, performance parity at 5MHz and complete software compatibility. An 8MHz part is set to appear towards the end of this year.



MIKE BREWER... Has moved away from Apple, but remains a dealer.

Rochdale becomes a micro innovator

by Nuala Moran

A PILOT scheme to promote the use of microelectronics by British industry was launched in Rochdale at the end of June.

The Micro-Electronics Awareness scheme was initiated by the Department of Trade and Industry. Funding of £54,000 a year for two years has come from the Trustee Savings Bank, Greater Manchester Economic Development Corporation and Rochdale and Stockport Metropolitan Borough Councils.

Under the scheme, an industrial adviser and a consultant will make short visits to manufacturing com-

panies in the Rochdale and Stockport areas to assess opportunities for applying microelectronics. Companies will then be advised about government schemes that provide financial assistance for introducing new equipment.

The funds available will provide help for 160 firms with a process and a product that would benefit from innovation.

The scheme is the brainchild of Professor Michael Hampshire of the University of Salford. It is being run by the management committee of the Microelectronics Awareness Centre at the university, under his chairmanship.

Apple pioneer whets its personal appetite

APPLE pioneer Data Efficiency, the company which first brought Apple micros into the UK, is moving with the times. It has just added the IBM Personal Computer to its list, and has marked the event by changing the name of its microcomputer systems division to the desk-top computers division.

Marketing director Stephen Brewer explains: "Our loyalty to Apple is important to us for obvious reasons," he says, "and we shall continue to expand that part of our business. But the opportunity the IBM Personal Computer offers cannot be missed."

Data Efficiency first came into micros through Microsense, the first UK Apple distributor. Microsense was taken over by Apple in 1981, as Apple Computer (UK), under the two Brewers - Stephen as marketing director and brother Mike as managing director. They have both since moved away from Apple, but Data Effi-



STEPHEN BREWER... "Opportunity cannot be missed."

ciency remains a dealer.

"The retail marketplace is maturing," adds Stephen Brewer. "Customers are becoming more certain of their choice - usually Apple and more recently IBM."

Don't impose, says manager

by John Kavanagh

COMPUTING management should develop guidelines for end users considering microcomputers - but should not impose standard machines on them.

So says David Eagles, technology research manager at TSB Trust Company, part of the Trustee Savings Bank, who is writing a businessman's guide to buying microcomputers.

"The view that the data processing department should be a central think-tank on micros is awful," says Eagles. "Imposed solutions don't work. The user is in the driving seat: it's his application and he's the one who will run it."

TSB gives end users a set of guidelines when they want their own system. This helps them define exactly what they want in terms of functions and suggests questions to ask dealers.

"If you specify the functions properly and get the right dealer, it doesn't matter what machine you get," Eagles says. "Some machines have big software libraries so you think about standardising - but it has to come through leadership." Eagles' comments come after a recent National Computing Centre survey, which showed that only a third of end users call on the data processing department for advice or support when they buy their first microcomputers.

Micro News is compiled by Robert Parry

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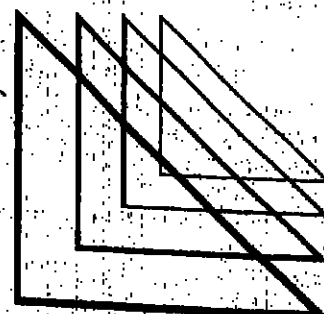
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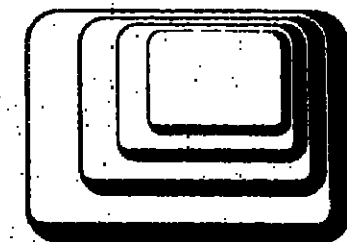
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Tycom to hedge bets on future

by Claire Gooding

MANUFACTURER Tycom is hedging its bets with a selection of operating systems for its new "future-proof" computer, the Microframe. Tycom has signed a deal with Logica, the UK supplier of Microsoft's Unix-based Xenix, and another with MPSL, for MIBOS and BOS systems.

Tycom appears to be making sure of plenty of applications for the Microframe in the short term under BOS, while keeping a finger in the Unix pie for the future. Other operating systems on offer with the 68000-based Microframe include Digital Research's CP/M-86 and CP/M-80, Microsoft's MS-DOS, and the UCSD-P-system.

Tycom's choice of Xenix was made on the basis that MS-DOS Version 2.0 will provide an upward path to Xenix. Xenix will be available as a plug-in board option, leaving the native 8088 processor to handle I/O operations.

Sixth Assassin

ICL's agricultural division has written a new test retrieval package to run on IBM mainframes under MVS, DEC's Vax range and ICL's MB29 and 2900s. The system, named Assassin, is a revamp of a suite originated in the 1960s. Previous Assassins have been widely used in industry, commerce, government and research.

Training venture

US MICRO maker Wicat has agreed with Thorn-EMI's Datasolve on a joint venture in computer-based training. Datasolve has recently been working with the Manpower Services Commission on Project Author, aiming to produce consultants and course authors for the subject. The project will use Wicat's Wise software. Wicat has also sold computer-based training systems to British Telecom and the Defence Ministry.

WP package

TALBOT Computers of Bourne-mouth has brought out a word processing package for the portable HX-20 Epson micro. Called Intext, the program converts the machine into a portable memory typewriter with printer, micro-cassette for storage and viewing window. Epson dealers and distributors will sell Intext in the UK, South Africa and Canada.

Deal with Yard

COBOL expert Micro Focus has contracted with Glasgow consulting engineer Yard to market its Coral 66 compilers for Intel's 8086, 8088 and 8085 microprocessors. Yard also sells compilers developed at the Royal Military College of Science for DEC Vax and PDP-11 hardware.

Roscoe option

APPLIED Data Research has added the extended timesharing option (ETSO) to its Roscoe software environment. This will allow the 1,200 Roscoe sites to support applications systems such as the SAS Institute range of products.

Price cut

INTELLIGENCE UK has cut the price of its 8-bit Micro modeller program from £645 to £250. It is converting the system for use on minis. A DEC RDP-11 version, jointly developed with Jensen Computer Services of Bristol, has already been installed at eight trial sites.

Advice for micro importers

SOFTWARE Sciences has announced a service for companies that import and distribute peripheral and microcomputer hardware. Under contract Software will provide technical support including collecting the equipment on its way

val in the UK, testing, configuring and installation. There will also be a full inventory control service. The service is designed to appeal to companies which have the commercial ability to sell computer systems but lack the technical know-how.

Military style irks Budge's new boss

NEW owner of the Wang software house Oliver Budge has hit out at "drastic mismanagement" which he says nearly caused the firm to go into liquidation.

Paterson Nirumvala, vice-chairman of Bahrain-based Information Systems International (ISI), which took over the Budge operation last month, said the style of management had been "military".

"People did not feel comfortable because they were not split into groups dedicated to one task," he said.

And he blamed Budge for "concentrating on products rather than people".

"He kept on developing products after the money had run out and they were not for the right machines," said Nirumvala.

Budge intended to stay with the firm after the takeover as a consultant, but he departed after a row.

"I told him I didn't want any consultants," said Nirumvala.

Now Budge has gone off to

launch another Wang-based enterprise, Regent Systems, with his former assistant Peter Gore.

Nirumvala believes the future lies with the 32-bit supermini and is to shift the firm's direction to developing software for DEC, Vax, Data General and HP 3000 hardware.

ISI will bring over its English language software developed in Bahrain for Wang machines, including packages for banking, insurance and commerce. It will continue to promote Budge's systems which Nirumvala praised, but will aim progressively at bigger machines.

ISI's Middle East parent, Al-moayed International, also owns the Wang distributor for the region, and the group claims to have cornered 70% of the computer market in Bahrain, focussing on government and finance sectors.

Nirumvala also thinks Budge spent too much time on Wang word processing level applications rather than exploiting its more lucrative investment in IBM System 34s.

The new bosses have increased the payroll from 12 to 18 and hope to recruit at the rate of a dozen a year.

An announcement of a new product is expected in October.

Budge was invited to discuss the matter but was unavailable for comment.

His firm was taken over by ISI for a sum said to be in excess of £100,000 after four bidders had offered to save it from liquidation. ISI is to bring in Richard Hunt as managing director from October.

Out of 22 former Budge staff 12 to 15 were expected to be offered continued employment there.

Budge's troubles came to a head when his backer, Technical Development Capital, refused it as a further cash injection.



NIRUMVALA . . . "People did not feel comfortable."

Comserv woos drug industry

COMSERV, the manufacturing software specialist from Minneapolis, plans to break into the lucrative drug industry by tailoring its package to cope with complex government controls.

Warren Hinze, the corporation's vice-president in charge of systems planning, came to London last week to describe to representatives of the pharmaceutical firms how enhancements to its programs can help them.

Until now most manufacturers in the chemicals and drugs world have thought manufacturing software was not for them because the systems were geared towards factories and control of assembly rather than process.

Comserv has sought to

overcome this hesitancy by adding to its suite, last year renamed AMAPS/Q (to signify a quantum leap), a new module for lot traceability. This is the drug firms' jargon for the ability to track a component from the supply of components all the way through to the consumer.

The lack of this facility has deterred the rich National Health Service suppliers from investing in software, because they have not been able to comply with the stringent legal demands. Britain, the US and Sweden have led the world with tough requirements on health services to protect their clients.

Many drug firms still do a lot of tracing manually. The prototype of the AMAPS/Q



HINZE . . . "It needed a pioneer to convince them."

enhancements have been running in prototype form at Ciba-Geigy in New Jersey for nine months.

The first European site will be Hoechst, at Frankfurt, which is likely to be running by October.

Hoechst decided to adopt AMAPS/Q early this year instead of continuing to use its own in-house data processing department.

About 25 prospective customers and management consultants heard Hinze's talk, including delegates from Glaxo, Roche, Fisons and Travenol.

"It needed a pioneer to convince them," said Hinze. "When Redken Labs decided to go for it, the others began to show a lot of interest."

IBM inspires awe with its new system software

FIRST reactions to IBM's announcement of its new DB-2 system software have been a mixture of awe and foreboding.

Although the relational database management system unveiled by IBM last month will not be available until the third quarter of next year, experts are already saying it will cause more than just ripples in the sea of software.

Boole and Babbage consultant Tom Bird told a London users conference: "I was just amazed when I looked over the functions of DB-2. Every utility from IMS is there. I was flabbergasted at how complete a product it is — far superior in many areas to what I anticipated."

And David Upham, of Relational Database Association in Seattle, predicted that the release of DB-2 could push many competitors out of the system software business towards applications for vertical markets.

"People will find it very difficult to come into this market with a

lower-priced product or with a better engine. Applications could be the only way for them to go," he said.

He said DB-2 was not being considered as a replacement for IMS and was a completely different piece of software to IBM's earlier development known as System R.

DB-2 is intended to run under MVS/XA and MVS/370 operating systems and to use the SQL/DS language. It is being interpreted as part of IBM's slowly-unfolding information centre concept, designed to get data processing departments to train end-users in self-help.

The path being followed was made clearer by another recent announcement of a deal with Artificial Intelligence Corporation in Massachusetts to offer its Intellect English language query system. This will be available under DOS/VSE, MVS and VM operating systems in the US from September.

Rivals link up in bid to grab freight business

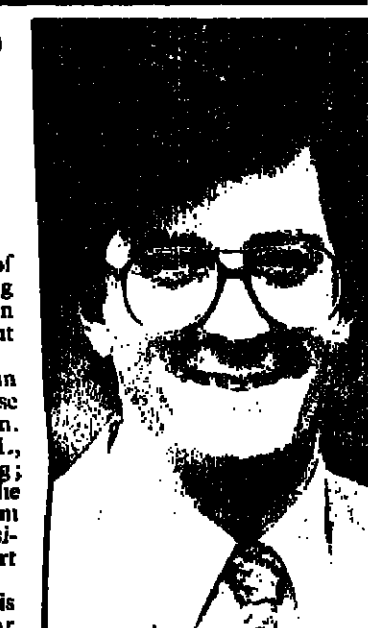
TWO former rivals at the top of the market for freight shipping systems have combined in an operation that could force out others.

They are Geisco, the American General Electric's systems house and EAC Data of Copenhagen. Geisco's customers include OCL, OOCL and Mobil Shipping; EAC's include Scandutch and the Mexican TMM. Between them they will have a formidable position in the international transport field.

By a recent agreement Geisco is marketing EAC's systems for equipment management, forecasting and data collection. EAC benefits by being able to make use of General Electric's worldwide teleprocessing network.

Geisco, like other traditional time-sharing bureaux, has been moving steadily towards changing its image to that of an all-round systems house. Now it offers its shipping facilities either as the bureau's Mark 111 service or as a software package.

EAC was set up in 1967 to provide computer backing for transport, trade and manufacturing firms. It has offices in North



THORPE . . . "If you can't beat 'em, join 'em."

America, Africa and the Far East.

"We were meeting EAC time and time again in the marketplace," said Geisco's shipping division chief John Thorpe. "The logical conclusion was, if you can't beat 'em, join 'em."

While continuing to support its old bureau customers, Geisco is now looking for emerging vertical markets to exploit and is using its telecommunications and electronic mail expertise to make transport its main area.

Generator has bottle

by John Riley

AN applications generator running on a Digital Equipment minicomputer has more "bottle" in it than Colobol on a Honeywell batch installation, say the bottle-makers.

York-based bottle manufacturer Redfern National Glass has introduced Hewlett Packard minicomputers for its process plant connected to a Vax 750 minicomputer supporting the applications generator, Admins. Conversion of the central business programs, sales ledger, stock control and accounting from the Honeywell 64/DPS-2 is nearly complete after six months.

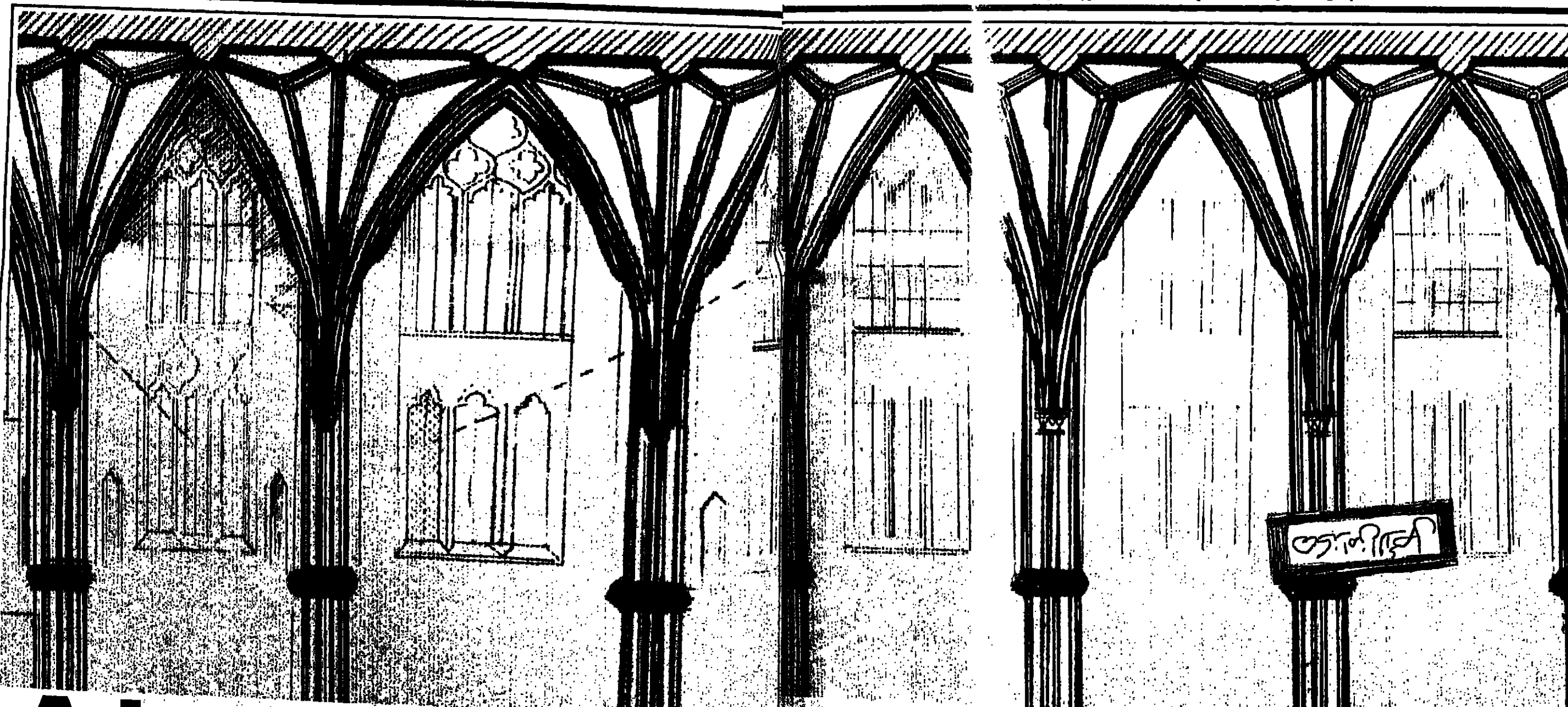
"I can't see how companies running batch installations and toying with VDUs can contain DP departments' costs," said Keith Nelson, managing director of Celerity Software, which supplied the applications generator Admins V32.

"If those companies don't do something their costs can only spiral," he said.

Nelson claims that the Redfern DP department had quoted seven man-years to build a purchasing system, whereas with Admins he could do it in four days. The latter figure is disputed by a member of Redfern's DP department.

Celerity Software, exhibited Admins for the first time at the Dexpo Europe exhibition last week in London, and is distributing it for the US company Admins Inc. The product is "an applications generator, but not a program generator," explained Nelson. "It is a set of pre-written programs that cover all business functions into a business-oriented system. I regard it not as a software product but as an electronic filing system."

The future looks bleak for the 20 or so DP staff at Redfern, and the crunch will come when the Honeywell machine is finally phased out in October 1984. Nelson says four people are concerned with the Vax working in user departments.



A lesson in architecture from ICL.

It is a fundamental principle of architecture that loads are best supported by distributing them evenly.

This is the very same principle upon which the radically new architecture of DRS-ICL's Distributed Resource System is founded.

Conventional computer systems demand that a single central processor handles all the mundane tasks of organising input and output, filing, and communication. The result is that it is often too overburdened to handle the application. By contrast, the DRS system uses a

number of function processors which share the tasks between them. Each processor is dedicated to one handling, screen handling, communication, and, of course, the application itself. This open system format

distributed processing through networks, with systems within the sharing their resources. In turn, these local networks communicate further via wide area networks, and with mainframe computers, ICL and IBM.

Most importantly, the system can grow. As your demands increase, more function processors can be added, and more workstations.

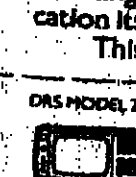
Your investment in DRS is further protected by the ease with which the distributed resource system can be extended to keep abreast of the future developments. Which brings us to another essential architectural principle. The very best architecture does not simply provide for the present. It plans for the future.



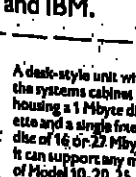
DRS MODEL 10
An intelligent workstation which can be connected to a DRS network, supporting and managing data.



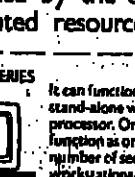
DRS MODEL 34
A desk-top workstation with twin 1 Mbyte integral disc that can run alone or be linked via MICROLINK to other DRS units. It can also communicate via Wide Area Networks with ICL and IBM mainframes.



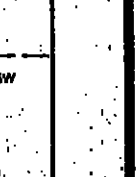
DRS MODEL 25
Shows the same features as a Model 34, with integral disc and floppy disc of 10 and 1 Mbyte. It can also form part of a local network, supporting one Model 20 or Model 10.



DRS MODEL 50
A desk-style unit with the systems cabinet housing a 1 Mbyte disc and a single fixed disc of 16 or 22 Mbyte. It can support any mix of Model 10, 20, 25, 40 and 50 systems.



DRS 800 SERIES
It can function as a stand-alone word processor. Or it can function as one of a number of successful workstations, supported by the DRS Document Storage System.



DRS 6/2
We should be talking to each other.



PROFILE



OSBORNE... Jetting round Europe with news of new computer.

Trendsetter Adam can also follow

YOU either set trends or follow them if you are to survive in the micro business. You can make a comfortable killing either way — but if you manage to combine the two, things look decidedly rosy.

It was just this ability to set a trend — to produce a machine that almost immediately stirred a host of rival products — while following the mainstream of microcomputing that put Adam Osborne quickly into the top five personal computer makers.

Born in Bangkok of British parents, he went to school in England, then to Birmingham University to study chemical engineering. But it was the US that beckoned, and he moved across the Atlantic to take a PhD in chemical engineering at the University of Delaware. Three years later with Kellogg and Shell followed, then he founded his own company in 1970.

Programming and technical writing consultancy to the mini and micro industries led to his big break in 1975 — the publication of his book *An Introduction to Microcomputers*. Another 40 titles on microelectronics and microcomputing followed.

by Robert Parry

It was the sale of this first company, Osborne & Associates, to McGraw-Hill in 1979 that gave Osborne the cash to set up in the micro making business himself, bringing to bear his ideas of the future market trends gleaned from his years as a columnist and micro guru.

Osborne Computer set out the micro to plug the gap he saw in the market. The first Osborne 1 appeared in June 1981, a cheap portable machine which, because it bundled a suite of well-established software all in for the basic price, that has become the yardstick for a whole new class of micro.

10 YEARS AGO

FROM COMPUTER WEEKLY OF JULY 12, 1973: The government approved aid of £25.8 million towards developing ICL's New Range of computers, estimated at costing £160 million in total from 1971-78. Ferranti made Heathrow the first airport in the world with its own air traffic control simulator. . . . Thora Industries acquired UK rights for IME range of viable and desk size computers. . . . F. W. Woolworth ordered about £1 million worth of ICL VDUs.

COMPANY PROFILE

Gould figures that it's now all one big happy family

THE top men at Gould are wearing a small figure 1 on their left lapels this year. It is not to symbolise the fact that they are first in any category although most of them are quietly confident that they are leaders in a number of fields — but to emphasise that Gould is one company.

The concern with identity is more than just the average management fad. For most of the people now working in the Gould empire were not in it four years ago and most of those in it four years ago are now out.

In 1979 Gould was an industrial and electrical conglomerate with sales just over the billion dollar mark. It then decided to shed its industrial and electrical products holdings and move into electronics.

Bill Ylvisaker, chairman and



YLVISAKER... "Success comes from people."

DOWNTIME

Fame pulls in riches

FAMOUS people are much in demand to do the honours at official openings. Only the other day Systime was honoured by a royal scissor-wielder.

Because of this avid embrace of well-established hardware and software, the old Z80-64K-CP/M cliché, Osborne himself claims to follow trends rather than set them. With the first models of the Executive line he was following his own trend rather than other people's moves to lighter machines.

Quick thinking on the part of vice-chairman John Gow was required. What could be done with the unexpected windfall? Luckily, he just happened to have a cheque for £1,000 about his person already made out to the St John Ambulance Brigade.

Should you be thinking of renting a celebrity to open your new Portakabin in Biggleswade, I can inform you that there's a three-year waiting list for Charles and

chief executive officer, said: "We did this for two reasons. First because it was the market that was growing the fastest, taken before profit and return on investment. Secondly we believed that there were about to be major changes in the industrial economy of the world."

In the four years since taking the decision the company has taken in \$800 million from the sale of its industrial and electrical products divisions. And it is about to sell the historical basis of the Gould empire, its lead battery division, for \$300 million.

The New York Stock Exchange early in June gave its vote of confidence to the company's management by boosting the Gould shares to a record high of \$42, after a two dollar leap in one day.

But Gould's jump into electronics was not as smooth as a simple recital of its successes would seem to imply for the company met with sharp rebuffs in its first attempts at buying its way into microprocessor manufacturing and mini-making.

In late 1978 and early 1979, Gould was involved in a behind the scenes battle with the UK General Electric Company to take over or buy part of mini computer Modcomp. The mini-maker put both its suitors off and elected to stay independent.

Gould then turned around and put in a bid for Fairchild Semiconductor, one of the pioneer semiconductor firms. The company's management described the bid as unsolicited and rejected the \$300 million deal. Gould, under-estimated, upped the ante by three dollars a share to \$57 and then to \$70 a share in the first weeks of May, 1979.

Within a week Fairchild had announced the surprise acceptance of a bid from the old technology giant Schumberger at only \$66 a share. Gould had already started litigation designed to force Fairchild's board to accept its own offer.

Gould then backed out of the Fairchild negotiations and suits

and turned its attentions to another semiconductor firm, Mostek. The California-based microprocessor maker made a pacy run into the welcoming arms of United Technologists, a US holding company.

The management of both the semiconductor firms had wanted no part of a deal with Gould and in the case of Mostek it had been rumoured that the company's corporate officers would have left if the Gould bid had succeeded.

For Gould had the reputation of being a very hard company. It had built up its electrical and industrial empire under the tough, and some would say, ruthless, leadership of Bill Ylvisaker, who had taken over in the late sixties.

by Ron Coates

Harry Caunter, executive vice-president and 20 year plus veteran at Gould, recently described the firm's changed management style as "quite a change. We used to take over due companies, throw the top people out and put in our own management. Now we take over good companies and leave the management there. We put money behind them and make them better."

And Ylvisaker said: "It has involved a change of mind set — the way of managing the company. Success in electronics comes from people and creativity and we found that we had to allow more entrepreneurship."

Now Gould has moved much more of the responsibility and the risk taking to its divisional levels and has adopted a committee style of management from the board. Always one to take advantage of an opportunity, Ylvisaker is delighted to point out that the new style of management has reduced corporate overheads by 25% — a saving in cash of \$8½ million a year.

Gould would appear to have been pushed into this "change of mind set" by its rebuffs in the late

seventies. When it came back to the market in September, 1980, was successful and picked a Systems Engineering Laboratories, a builder of powerful 32-bit minis for scientific and industrial applications, for \$150 million.

And the top Gould men were eager to point out that the SEL management are still in place after three years. The company's acquisition rate began to take off with a year of the SEL take-over.

In February, 1982, it sealed a deal for the take-over of AMI (American Microsystems Inc) and finally acquired the semiconductor company it wanted. In April it picked up Bryans Southern Instruments, a UK-based graphics and recorder firm and in November bought Dexcel, a California based Gallium Arsenide specialist.

This year the company bought into UK network specialist Telsat and did not buy US-based Gaftek.

David Simpson, Gould president and chief operating officer, quite clear on what he thinks the benefits of being bought by Gould are. Pointing to SEL he said: "We made it more successful. It was a successful company and we could afford to invest the right kind of money to make it more so."

"And at the AMI they had a very prudent management. They were not building the facilities they needed because they didn't have the cash. We put \$45 million into it last year and will do the same this year."

AMI has doubled its facilities in the US and a joint venture in Austria with steel giant Voest Alpine, which comes a stream later this year will replace its US capabilities.

And for new projects within the company Simpson points to some pride to its new multi-division system Power Stations.

Gould will be on the look-out for software companies working in Unix and on 32-bit architecture, preferably in a particular segment of industry.

Off the cuff

IT'S not easy being a PR company. Each day, the *Computer Weekly* postbag threatens to cause unpleasant injuries to the postman as he staggers in with at least three trees-worth of invitations to lunches and lunches.

Even the lives of us hardened hacks could not hope to survive if we were to attend every luncheon, so it's up to the PR people to convince us that our lives would be enriched by dropping in on their particular thrash.

A valiant effort to do just this arrived only last week. The company in question sent a single cuff-link with the promise that, should we attend its do, we would be presented with its mate. Clever stuff, eh?

Only one thing spoiled the plan. The company sent us four copies of the invite and four single cuff-links.

Make war games not war

WHILE lousy pinko subversives protest about the increasing use of computers in warfare, the Canadians are replacing war with computers. It would appear that the men in woolly hats and check shirts are so impoverished when it comes to buying guns and bombs that they can only afford one real war game a year.

Indeed, deaths, maimings and wretched destruction are simulated on Apple II micros. Operation Rapid Thrust ran for 24 hours over a



Tune into this

OFT have I wondered as to the sort of person who reads the august journal (and the July one) and my worst fears were realised when I received a suggestion for another song title and associated bit of software.

Alpha-Centauri director Norman Paterson suggests the following: "Let's get Visceral", by Olivia Newton-John. Asasarghl

weekend (with the war being stopped at bedtime each night) and you will no doubt be pleased to learn that the Canadians only lost 450 men, whilst killing a healthy 650 simulated bad guys.

At the risk of being inundated with white feathers, might I be so bold as to venture that we supply generic Russian in this week, with Apple II's and let them pretend they're destroying the world? Chad

ComputerWeekly

Quadrant House, The Quadrant, Sutton, Surrey SM2 5AS

Thursday, July 14, 1983

When will British industry learn?

ONCE again the hoary spectre of the "brain drain" has been raised, on this occasion by the head of the government's Alvey programme.

But there is a slight difference. In the sixties, the brain drain was used as a somewhat perverted excuse for British industry. This country's top brains were being wired by the money and glamour of working in the United States.

It was therefore no wonder that British industry could not compete — it's best people were deserting it. This ignored one crucial fact. The vast majority of the people who went abroad would have preferred to stay. Indeed many, for example Robb Wilmot, Colin Crook of Zynar, one of the top men on Motorola's 68000 chip development, Dr Melvyn Larkin, also of Motorola, now of Plessey, seized the first opportunity to return.

They went because the United States was where their work was appreciated. There industry was putting its efforts into research and, Oakley was too polite to tell the industrial section of his audience that the reason that foreign companies could lift British ideas was simply that they were quicker and smarter.

Highly successful companies such as Gould, Prime and Computervision have come shopping for the UK's computer aided design and manufacturing expertise. And they have bought almost all of it that wasn't nailed down. Gould, indeed, is still looking.

These British companies were all ones that were doing reasonably well, but could do better with more resources behind them. They had been languishing on the doorsteps of UK industry for years to little avail.

The private UK finance house Investors in Industry, formerly Finance for Industry, last week also issued a call to its fellows to pay attention to what UK academics are doing and are capable of.

The call cannot be made too often it would seem. The tragedy is that it need be made at all. It would be a national scandal in Japan were a UK company to exploit the work of a Japanese academic team. In the UK it is commonplace. The question is, will British industry ever learn?

Let's be frank . . .

GOVERNMENT agencies are an easy target, both for scandal-hungry reporters and for aggrieved suppliers of goods and services. So let us be fair and not jump to the conclusion that the computer procurement body, the CCTA, has been at fault in its choice of a machine for Queen's University, Belfast.

After all, how can it win? If it recommends a foreign manufacturer, it faces an outcry for "disloyalty", not backing indigenous talent and the attendant warnings about driving our best brains overseas. If it opts for ICL — and there may be no overriding reason why it should choose one rather than another in such a situation — then there is another lobby at its throat for alleged discrimination, corruption or whatever.

Suspensions are aggravated, however, by the whole extraordinarily complicated procedure by which these issues are decided. It is extremely difficult to find out in this, as in other supposedly "public" affairs, who is responsible for the outcome.

Is it the Universities Computer Board, the CCTA, the Department of Education or the Treasury? It is not easy to see what would be the result if Queen's vice-chancellor Peter Froggart headed the call from his professor of medical statistics Tony Greenfield not to sign the cheque for the ICL contract.

If there is nobody who understands the proper procedure, the matter could bog down in a mire of bureaucracy and the Belfast academics would be forced to wait indefinitely for the replacement system. That would be the worst of all possible outcomes.

The moral of the tale seems to be that more open discussion at every stage would at least help towards getting satisfied end-users. And they, after all, are the people who count.

1984 and all that . . .

THIS week's example of the strange things people say about computers was sent in by Len Unsworth of Salford, who wins £5. Finally there is Basic. That's the name of the computer language designed to be friendly to novices like me. Yes, you've guessed it. With friends like Basic, who needs enemies? Daily Mail

LETTERS

The lesson for Leyland

I READ with interest your article (*Computer Weekly*, June 30) about Leyland Trucks' current experience with material planning systems.

However, I was a little surprised and dismayed at the unsupported endorsement the article appeared to give to AMAPS, and the fact that the author seemed to miss the most outstanding conclusions from his interview.

While AMAPS may well be reasonable software and the techniques of MRP may be of value to a manufacturer, it was clear from the article that AMAPS and MRP were not yet installed or being used at Leyland, unfortunately despite the headlines around the article Mike Waller, the author, gave us no insight into the special value of the package or the technique of MRP.

It is clear from many manufacturers' experiences that the techniques of MRP represented in both packages (MAS, Copics, Maspics to name but a few of the major ones on the market) and in-house written software have given tremendous benefits to the users in terms of reduced inventory and increased control of all aspects of the production process.

The interesting conclusions that I would like to draw from the interview as it was reported is first that the implementation of Leyland Trucks' MRP system (in use "since the 1950s") was clearly not successful. It appears that this was not a fault inherent in the software but in user attitude. Education and enthusiasm since the start of their new project has enabled them to say "even before AMAPS we've taken £7 million out of inventory", and presumably that saving was made using their old MRP system.

A second factor of interest is that it required a visit to the US to spark off this enthusiasm. It is a fact that US attitudes to manufacturing are in general more positive and productive than in the UK. Although many believe the Japanese have some unique abilities in this area it is true that techniques used successfully in the US and are merely borrowed from some of the best organisation there.

It is almost sad that a company like Leyland, like many other British manufacturers, has had techniques developed in the US in the 1950s and 1960s available to them for nearly 20 years before they learn to reap the benefits.

To return to the article, AMAPS and MRP (as opposed to MRP) may or may not hold great benefits for Leyland Trucks. This is not shown either way, and it seems too early to assess. What has benefited the company tremendously — and here I guess Conserv does win praise (as well as sales) — is its user education programme.

A nice word from America is quoted in the middle of the article: "Don't get excited about your new MRP system; get excited about the old one." Get that working properly. . . . Therein is the lesson to be learnt.

PAUL MYERSCOUGH
London NW3.

VME views

IN Andrew Thomas' VME article (*Computer Weekly*, June 30) it is unfortunate that a reasoned history of the evolution of VME should also have been the vehicle for a collection of highly biased jibes against MVS and MVS/XA.

Doubly unfortunate is that the statements made are largely incorrect. The average MVS installation does not have 15 systems programmers: four to six is more likely. Conversion to XA does not require two machines: the VM/XA migration aid is specifically designed to avoid this. Migration to XA should not take two years: three months' planning and three months' full testing is more likely.

M. SCOTT
London W2.

The pain of SSP

YOUR correspondent Cliff Dilloway takes great pains to draw distinctions between a practical view of SSP and a legalistic view of SSP (*Letters*, June 16).

The net result is that he provides some useful explanations as to why we are receiving queries by the score about SSP and payroll administration difficulties.

Apparently some DHSS offices and some PAYE specialists, such as your correspondent, have promoted SSP administration as being a minor addition to normal payroll routines.

This "practical" view of SSP presumably explains why so many monthly paid employees are not issued with SSP Exclusion Forms, SSP (C), or SSP Transfer Forms, SSP (T), within the required time limits. However, we are advised by Dilloway that rules are there to be broken, so does this mean hard luck for the employee who is unable to claim State sickness benefit at a time when the cash is required?

The practical Dilloway finds the legal rules on daily offsetting SSP and contract pay somewhat laughable. According to his letter an employer who fails to offset correctly breaks no laws.

Yet employers who join in with the laughter, and handle daily offsetting in the cavalier fashion recommended by your correspondent, will laugh on the other side of their faces when prosecuted under Section 9 of the Act and face £1,000 fines, three months imprisonment, or both. And the employee who is underpaid SSP because of offsetting breaches by the employer will also find it hard to see the joke.

However, let's not get legalistic.

Unfair to Prolog

PROFESSOR COLIN is of course right to point out that the Tower of Hanoi problem can be solved as easily in Pascal as in Prolog. However, the latter half of his letter is grossly unfair to Prolog. Prolog (and Lisp) excel with problems involving complex data structures — such as algebraic manipulation programs, natural language understanding programs, etc. Unfortunately such programs are too big to explain in a magazine article.

Several systems now exist (such as Salford University's Lisp/Prolog system for Prime hardware and Surrey's Poplog) to permit Prolog to be mixed with other languages. This should permit very lucid Prolog programs to be written, with certain operations which are not suited to Prolog being programmed in other languages.

Having worked on the above mentioned Lisp/Prolog system for some time now I see a bright future for the language — solving problems too hard to be solved in Pascal.

Dr DAVID BAILEY
University of Salford.

Separate organisation

PLEASE allow me to correct an error in your article concerning Scientific and Research Staff (*Computer Weekly*, June 30).

My comments to your reporter referred to the situation in both the University of Bristol Computer Centre and the Avon Universities Computer Centre, the latter organisation being responsible for the operation of a Honeywell Multics system on behalf of the Universities of Bath and Bristol.

However, the University of Bath Computer Unit is a separate organisation under the directorship of Professor J. P. Fitch and is thus one for which, contrary to your report, I do not have any responsibility.

A. R. GRANT, Director
School of Mathematics
University of Bristol.

Meccano can teach ICL

I SEE that your readers include Meccano enthusiasts who can identify with recent advertising (*Computer Weekly*, June 9). The absence of nuts and bolts pointed out by Roger Wallis may indeed be a Freudian slip by ICL.

Personally I am convinced that nuts and bolts were the cause of Meccano's eventual and much lamented demise. Real Meccano had these head bolts and square nuts. New Meccano had round head bolts and hexagonal nuts. This subtle change may have saved brass (no pun intended) but it also made it almost impossible for anyone with less than three hands to work with.

How do you hold a small round headed screw straight between thumb and forefinger?

Let's hope ICL learns from Meccano's mistake.

J. N. CHAPPLE
London SW18.

The Editor welcomes letters commenting on subjects published in *Computer Weekly*, or on original topics. All letters must be accompanied by the writer's name and address, not necessarily for publication.

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Several systems now exist (such as Salford University's Lisp/Prolog system for Prime hardware and Surrey's Poplog) to permit Prolog to be mixed with other languages. This should permit very lucid Prolog programs to be written, with certain operations which are not suited to Prolog being programmed in other languages.

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A. R. GRANT, Director
School of Mathematics
University of Bristol.

Liveware File

by Don

MORE SELF-CERTIFICATION FORMS...

"ACUTE CORYZA WITH FEBRILE EPISODES"

"EITHER 'ALL OR THYROTOMYOSIS'"

"WHO GAVE THEM ACCESS TO OUR NEW EXPERT SYSTEM?"

TEST TIME AGAIN!

WHILE lousy pinko subversives protest about the increasing use of computers in warfare, the Canadians are replacing war with computers. It would appear that the men in woolly hats and check shirts are so impoverished when it comes to buying guns and bombs that they can only afford one real war game a year.

Indeed, deaths, maimings and wretched destruction are simulated on Apple II micros. Operation Rapid Thrust ran for 24 hours over a

Cobol law proposal hits a hitch

PROPOSALS to settle the next key issue in Cobol are causing concern among some members of the British Computer Society. The issue is screen handling, and concern focuses on a proposal submitted to Codasyl, which is to Cobol what the House of Commons is to British law.

The proposal attempts to define how screen handling should be implemented and linked into Cobol at a time when many companies are going it alone with their own software. Micro Focus, for example, has a product called Forms 2 for screen handling.

The view of most of the BCS Cobol Specialist Group is that the proposals are too biased towards mainframe users who enter whole screens of data at a time and then press a return key to file the information.

On micros, it is possible to enter data one line at a time. When running order entry, it is then possible to input an account number and have it checked on the database of customers before filling in the details.

"Users of micros who have this kind of interaction would not be happy with the new proposals," says Tony Sale, of the BCS Specialist Group.

Sale thinks there should be an option to do it both the mainframe way and the micro way. "I suggest there should be a closely coupled environment and a loosely coupled environment."

As Sale is also a member of the Screen Management Task Group — the Codasyl sub-committee responsible for the report which, continuing the parliamentary analogy, is rather like a White Paper — there is clearly some division to be settled before any proposals become Cobol law.

Sale thinks there should be a division of labour between the intelligent terminal and the central computer in the case of mainframe use. The terminal would calculate the co-ordinates of the pixels, which are the individual items of information on the screen, and perform preliminary validation of data. Then it would be possible to interact with the mainframe field by field, or after a whole screen has been keyed in.

Last word on the parliamentary analogy. The equivalent of the House of Lords is ANSI, the American National Standards Institute, and of the Queen, ISO, the International Standards Institute — which usually puts the rubber stamp where it is told.



Finch helps the three young Norwich winners to hold aloft their trophy.

Top of form in technology

A SCHOOL team from Norwich has won the first national QUIZ IT, with a formidable display of all-round computing knowledge. Three boys from Thorpe St Andrews School beat Portsmouth Grammar School to the £1,000 first prize in the final in Liverpool. Questions were fired by BBC TV Tomorrow's World presenter Michael Rodd, and the trophy was presented by Bob Finch, managing director of the competition

sponsor, Computing Technology. Several hundred school teams of O-level students, aged 14 to 17, have been competing this year for the prize in regional and inter-regional rounds, organised by the British Computer Society. The six regional winners turned up at Liverpool for the semi-finals, and the final was held immediately afterwards.

I was given some of the questions to flex my wits, and

not one did I answer correctly. Here are two of them:

Q: A parent that helps to cure a bad back?
A: A Motherboard.

Q: Passes without pretence?
A: Real time.

With cryptic questions like these, the Norwich school did well to score 85 out of 100 in the final, with Portsmouth trailing at 77.

A system to put the expert at ease

MANY in the industry are ready to put the expert into computers. Some of us have to be against it. I am one of those. I would like to see the expert put into a computer. I would like to see the expert put into a computer. I would like to see the expert put into a computer.

This is done by first system a set of attributes to the application. In the medicine it might be the temperature, blood pressure, rate of age and birth, for example.

Then the expert system examples of what to apply to given cases. But expert does not need to know precise rules to drive a machine. It needs to know what to do. But they can't do it. But they can't do it. But they can't do it.

Sometimes the expert think a particular situation when it is not.

John Beles has been appointed marketing manager of Gothic Crelon, the new company name for Thorn EMI's extensive electronic components and microsystems distribution operation. He has joined the company from Abacus Electronics, where he was marketing and operations manager.

Robert Allerton has been appointed branch manager for the western branch of Rediffusion Computers, based in Bristol. He joined the company in 1979 as territory manager for the northern branch and was appointed area sales manager in 1981.

Geoffrey Finlay has recently joined the IBM specialist software house, Insight Database Systems, as marketing director. He was formerly international manager with the McCormack and Dodge Corporation.

Micom-Borer of Reading has appointed a new sales executive in the City. Bill Jenkins will be responsible for sales of the entire Micom-Borer range of low, medium and high speed data communications devices. He has worked for Thorn EMI, where he was on the North London sales team selling PAX Systems, pocket paging devices and public address systems, and as a sales executive for Infotron.

Terry McIntyre (above) has been appointed keyboard sales manager of McMurdo with responsibility for the marketing of keyboard products under the recently announced joint venture agreement between McMurdo and Orom. He will liaise closely with the Paris-based Orom Company. McIntyre comes from ITW Electronics Europe, where he was applications engineer, keyboards.

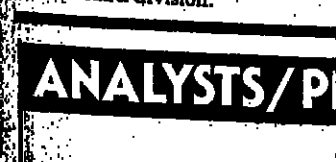
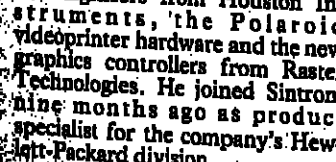
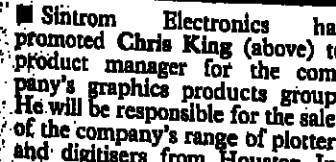
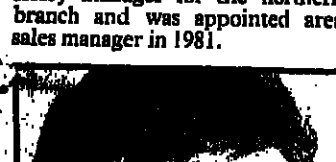
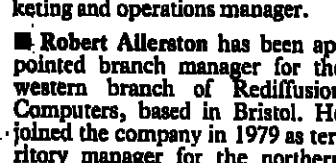
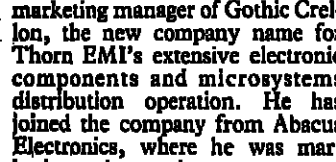
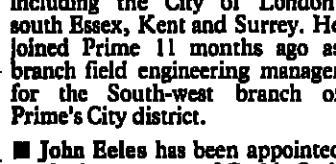
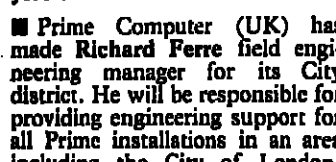
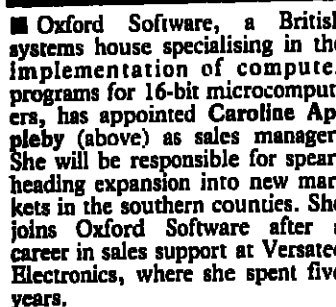
Sintrom Electronics has promoted Chris King (above) to product manager for the company's graphics products group. He will be responsible for the sales of the company's range of plotters and digitisers from Houston Instruments, the Polaroid graphics controllers from Raster Technologies. He joined Sintrom nine months ago as product specialist for the company's Hewlett-Packard division.

THE fifth International Conference on Boundary Elements is to be held in Hiroshima, Japan, from November 8-11. Topics covered will include numerical techniques and mathematical principles; linear/nonlinear structural

mechanics; fluid flow problems; mass and heat transfer problems; geomechanics; electric/magnetic field problems; coupling of boundary element/finite element methods; stochastic systems; and industrial applications. For further information contact Conference Secretariat, Computational Mechanics Centre, Ashurst Lodge, Ashurst, Southampton SO4 2AA. Tel: (042 129) 3223.

CALL for papers has been issued for the second Worldwide Congress on Computer and Communications Security and Communications Security and Protection, Securicom 84, exhibition, which March 2 1984 in the New Palais des Festivals et des Congrès de Cannes, France. The main topics will be: computer security; logical security and privacy; risk analysis and disaster recovery planning; and computer auditing. Potential contributors are invited to send five copies of their paper before August 31 1983 to Securicom 84, SEDEP, 8 rue de la Michodière, 75002 Paris, France. Tel: (1) 7424100.

PEOPLE



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DANGER

Each letter represents a digit. See page 55 for solution.

DANGER

Each letter represents a digit. See page 55 for solution.

Allmand Computer Systems, the City-based software house and consultancy, has appointed Roger Dimmock as marketing and sales manager. Dimmock, formerly a banking consultant with CMG, will initially concentrate on expanding the client base for Allmand's specialised services and products in the banking and financial sectors.

Bryan Mills has been appointed a non-executive director of the newly formed company FI Services. He will look closely at overall marketing and sales strategies. He was previously the chairman and co-founder of Computer Management Group. Mary Anne Feerick has been appointed chief executive officer of F International (USA), based in New York State, and will be responsible for developing its client base on the East Coast of America. Dr Kit Grindley (below) has been appointed special research consultant to F International's Micro Services Centre, which was established to develop his Systematix program generator for microcomputer projects. He was previously a senior partner with Urwick Diebold.

Caroline Martin has joined Pete and Pam Computers, augmenting the technical sales/support department at the company's London office. She was formerly a systems analyst at the Diamond Trading Company for seven years.

Wibach Computer Services has appointed Steve Hunter as systems software manager. Formerly with Equinox Computer Systems, he will be involved in the transfer of the company's Wispay payroll system to other computers.

Jacques G. Melsomrouge, IBM senior vice-president, has been elected to the board of directors of International Business Machines Corporation, IBM World Trade Corporation, member of the Corporate Management Board and the Business Operations Committee and Member of the board of the IBM World Trade Europe/Middle East/Africa Corporation.

Geoffrey Finlay has recently joined the IBM specialist software house, Insight Database Systems, as marketing director. He was formerly international manager with the McCormack and Dodge Corporation.

Micom-Borer of Reading has appointed a new sales executive in the City. Bill Jenkins will be responsible for sales of the entire Micom-Borer range of low, medium and high speed data communications devices. He has worked for Thorn EMI, where he was on the North London sales team selling PAX Systems, pocket paging devices and public address systems, and as a sales executive for Infotron.

THE fifth International Conference on Boundary Elements is to be held in Hiroshima, Japan, from November 8-11. Topics covered will include numerical techniques and mathematical principles; linear/nonlinear structural

mechanics; fluid flow problems; mass and heat transfer problems; geomechanics; electric/magnetic field problems; coupling of boundary element/finite element methods; stochastic systems; and industrial applications. For further information contact Conference Secretariat, Computational Mechanics Centre, Ashurst Lodge, Ashurst, Southampton SO4 2AA. Tel: (042 129) 3223.

CALL for papers has been issued for the second Worldwide Congress on Computer and Communications Security and Communications Security and Protection, Securicom 84, exhibition, which March 2 1984 in the New Palais des Festivals et des Congrès de Cannes, France. The main topics will be: computer security; logical security and privacy; risk analysis and disaster recovery planning; and computer auditing. Potential contributors are invited to send five copies of their paper before August 31 1983 to Securicom 84, SEDEP, 8 rue de la Michodière, 75002 Paris, France. Tel: (1) 7424100.



Cable and Wireless UK Services has appointed Kevin Carter as general manager, marketing. He is responsible for all the company's product marketing and sales functions. Previously he was product marketing manager with STC Business Systems, where he marketed teleprinters, facsimile equipment, word processors, telex, videotext, intelligent telephones and message switching systems. All this experience will prove invaluable, claims Cable and Wireless, at his new post, where message switching systems and associated equipment form the major part of the product range.

DIARY

JULY 21

Unix for Managers at St Ermins Hotel, London, is designed to give an overview of Unix. Details from Bleasdale Computer Systems, 01-828 6661.

AUGUST 5, 12, 19, 26

Practical Wordprocessing is a user training course held at the Barton Grove Micro School, Warrington. Other courses in August cover wordprocessing theory and practice, electronic book-keeping, building and using an integrated system and building and using a database. Details: Training manager, Warrington 36642.

AUGUST 8-11

Practical Computer Auditing for business and systems analysts is organised by Control Data. It will take place at Control Data Institute, London. Cost is £445. Details from Sylvia Lyons, 01-240 3400.

tails from Sylvia Lyons, 01-240 3400.

AUGUST 8-12

Introduction to Organisation and Methods is designed for those involved in administration or management who need to review current systems. It takes place at the Henry VIII Hotel, London. Course places at £510 may be booked through the course registrar, Cherry Bignmore, on 01-261 9237.

AUGUST 16

Data Communications Overview at the Control Data Institute, London, gives an introduction to modern communications systems. Organised by Control Data, it costs £145. Details from Sylvia Lyons, 01-240 3400.

AUGUST 30-SEPTEMBER 2

The second International Conference on Database, organised by the British Computer Society and universities of Aberdeen and Cambridge, takes place at Churchill College, Cambridge. Details: Peter Hammersley, Middlesex Polytechnic, London N11 2NQ.

SEPTEMBER 5-8

IBM Cobol Review, a course organised by Altergo Education, takes place in London. Aimed at inexperienced Cobol programmers, it costs £450. Details: Altergo Education, 01-836 9303.

SEPTEMBER 12-15

Advanced IBM Cobol is an Altergo course for programmers with at least 12 months' Cobol experience. To be held in London, it costs £450. Details: Altergo Education, 01-836 9303.

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CW1

Micros for the masses — minus the jargon

BBC PRESENTER Brian Redhead is already famous for his television series which tried to bring the micro to the business masses.

He has now chosen to exploit his talent for jargon-free exposition with the launch of a video called The Micro-Computer in co-operation with BBC Radio 4 producer Trevor Taylor, and the National Computing Centre.

"The aim is to make the micro palatable to a larger audience," enthuses Redhead. "We use as little jargon as possible, define what few terms you need, and stick to them."

Terms evoked by Redhead in

the introductory video to what promises to be a refreshingly down-to-earth series include "software", "byte" and "floppy".

Future videos in the series will cover more specialist topics like database software, word processing and accounting.

A later series may introduce sophisticated notions like networking.

The emphasis will be on software, insists Redhead. The introductory video includes an exhortation to buy existing software packages rather than try to reinvent the abacus.

David Fairbairn, managing director of the National Computing Centre, also features prominently on the video, and urges people to consider using program generators rather than doing their own thing in Basic.

Redhead adds that one aim of the program is to coerce potential buyers to seek advice from the NCC's own service.

Watching his own video almost a year after it was filmed, Redhead made him restrain his flamboyant mannerisms a little. But he does at least succeed in breathing a little life into the unexciting looking plastic boxes.

"The Micro-Computer" costs £29.90 plus £1.75 carriage and insurance from Double Tee Productions of London.

Basic in Parallel, by S. J. Wainwright, available from the Baffin.

Do not be confused by the title, the book has nothing to do with parallel programming.

Instead, it develops simple programs in the two languages simultaneously.

The author believes good style will come just as easily in Basic as in Pascal to anyone who follows the book's examples carefully.

Basic guide to good style

BASIC has often been slammed by the purists for its poor structure and tendency to encourage bad programming habits. Being easy to learn, it gives people the illusion that they are master of the programming art before they are even apprentices.

Instead, pupils of computing should be taught a sound structured language like Pascal. Or better still, one of the new generation languages like Prolog that are not slave to the old von Neumann

ideal of guiding the computer step by step through the calculations. This at least is the argument. Like many arguments it begs some questions and ignores key factors such as the quality of the teaching.

True, Basic has a poor structure, but this does not preclude the programmer from writing well-formed code, if taught to do so. Likewise it is possible to write formless code in Pascal.

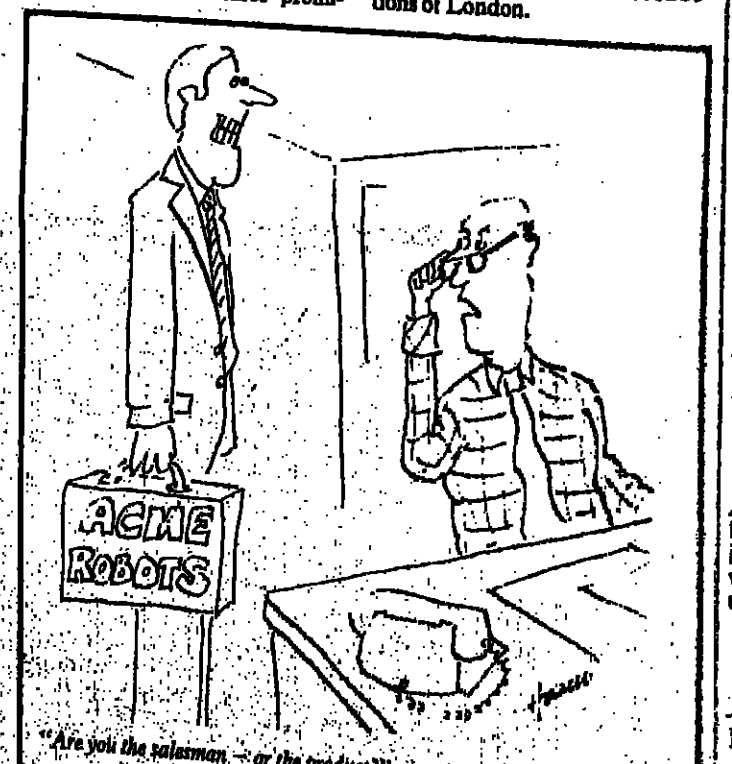
This sentiment has been caught admirably in a small booklet, Basic

Equipment Vax computer, turning out drawings at the rate of six an hour.

The program is a kind of expert system, written by former abstract artist Harold Cohen, which uses a base of knowledge of the funda-

mentals of drawing such as perspective. "Most expert systems draw inferences, while mine draws pictures," says Cohen. "That is the only difference."

Harold Cohen will be talking about further implications of his work at 7.15, July 13, at the UCA at Pall Mall, London.



"Are you the salesman... or the product?"

Each letter represents a digit. See page 55 for solution.

DANGER

Each letter represents a digit. See page 55 for solution.

DANGER

Workplace is compiled by Philip Hunter

BOOKS

Second silicon revolution will aid third world

The Wealth of Information, Tom Stonier. Thames/Methuen (1983). £4.95.

JUST as J. K. Galbraith's *The Affluent Society* defined the agenda for economic debate in the 1960s, and E. F. Schumacher's *Small is Beautiful* set the tone of the 1970s, so Tom Stonier's thought-provoking little book may well turn out to be a seminal work of the 1980s.

In short, it is a minor classic, though Stonier is not in the same league as his heroes, Adam Smith and John Maynard Keynes.

His main thesis is simple: information adds value. The accumulation of information is as important today as the accumulation of capital, and becoming more so. Knowledge can convert deserts into fertile cropland.

Even machinery is more than just muscle-power in metal. Each machine embodies within itself an intellectual history of invention and discovery. And of course one machine stands pre-eminent in the information economy — the computer.

As the necessity for physical labour continues to decline, we are fast becoming a nation of programmers and information technologists.

More interesting is Stonier's forecast of a second silicon revolution — based on the photo-voltaic cell (close cousin of the transistor) which promises cheap, clean solar energy for the Third World.

Most of the world's poorer countries are blessed with abundant sunlight, and their economies would be transformed by such an energy source.

From megabytes to megawatts! Silicon, one of the commonest elements on earth, is more precious than gold; and the alchemical ingredient that turns sand into riches is knowledge. Once we recognise the value of knowledge, we will have to re-write economics, for as Stonier says: "Information is a resource which can be truly shared."

When I tell you something, I do not thereby diminish my own store of information. Indeed, most find that the attempt to impart information often enriches the teller's knowledge.

Thus while competition is the norm for land, material goods etc, co-operation is, or should be, the normal mode of information exchange. As we move into an age where information technology supplants manufacturing as the dominant source of wealth there are grounds for hope that this fact may rescue mankind from the excesses of competitiveness.

We have just witnessed an election campaign full of calls for Victorian values and other outdated remedies. Our leading politicians display a poverty of ignorance about the wealth of information. The publishers of this book should send a free copy to every member of the new Cabinet — and lock them up until they have read it.

Richard Forsyth



No longer any cause to dread the arrival of the school's first micro.

How to organise children for the school's first micro

Micros in Early Education, Pamela Fiddy & David Wharry. Longman. £2.25.

JUST what I've been waiting for — a guide to using micros in the classroom. As a teacher with no knowledge of computers, and faced with the prospect of using one in my classroom in the near future, I found this book informative and, more importantly, extremely encouraging.

The authors set out to tell the timorous beginner how to organise the classroom and children, about the different purposes a micro can serve, and how to make good edu-

cational use of electronic toys.

This is achieved using admirably plain language. The jargon so beloved of those in the know is explained in a clear and precise manner so that even I would feel confident to use terms such as hands-on experience and bit pad.

Plenty of ideas for the development of systems are suggested, and the appendices form a comprehensive list of further sources of information.

The photographs are useful in assisting the novice to identify pieces of equipment and in showing what selected programs look like on the VDU. I was not so

impressed with the cartoon-style illustrations however.

In the first chapter we see the enthusiastic wild-eyed woman teacher using a micro with a class of children, but by the time we reach chapter three who is shown writing the programs and doing the technical things? A man of course.

Microcomputers in Early Education is a practical and basic guide for the complete beginner. After reading it, I actually began to look forward to the delivery of our micro, rather than dreading it.

Christine Penfold

Should Basic be quietly lost?

Computer Languages and Their Uses, Gary Marshall, Gnu Publishing. £5.95.

ONCE a computer language established for a particular application or type of machine, that amount of flak from the pot seems capable of dialogue.

Fortran and Cobol have come in for ridicule from the pot, yet one remains the language of the scientific community, the other is actually increasing hold over commercial data processing.

Marshall's book is a gentle thorough demolition job on the He begins with the alternative small micros, such as the Comal and Forth, which are structured; or Prolog and L which are more suitable for particular applications.

Marshall then develops programs, and gives alternative versions in other languages for same application. Each concludes with reasons for preferring languages other than the one with database programming, preference is made for the simulation, Comal, while for graphics, it is Lisp.

For three dimensional graphics Marshall exhorts something not really a language at all, suite of Fortran programs he as Gino-F, which give a way of drawing graphs, independent of the hardware.

He admits that sophisticated graphs can be drawn with, using commands added by the user to the language. In software to draw these graphs not be run on other micros — different graphics commands.

Fair point. But not all run Fortran, so Gino-F is not that portable either.

I finished this book with a favourable impression of Marshall had unwittingly demonstrated how versatile the language is, capable of use for almost any application. Some of the other graphs used are more limited scope.

He also shows that while it is a much better language for writing structured programs, it follows a natural design, the job be done in Basic. And to do it, need to know what you are doing. So while Basic is the easiest to learn, it is harder to master to use well. By Marshall's own argument, that is not a good thing.

The book is worth reading in its own right as an introduction to sort of software that can be used for personal computers.

The reader will certainly gain with a solid knowledge of the book, and will brush with some of the other languages commonly countered on micros.

Philip How

Computer lift-off for the beginner

Computers Today, Donald H. Sanders. McGraw-Hill. £19.95.

THERE is always a need for comprehensive, up-to-date and easy-to-digest guides to the whole computer world.

The demand is from businessmen wanting to learn about computers, from computer industry trainees, and from experienced analysts/programmers specialising in one system or one language who want an overview of their industry.

All these categories are catered for in Sanders' remarkably unstodgy 669-page guide. The book works because the lavish use of colour, lucid diagrams and careful layout provide maximum visual impact.

Sanders has written this to be a textbook for computer literacy, so that when the reader has finished he will understand the principles of what computers are, what they do, how they work and their social impact.

Two areas in particular are dealt with particularly well, with clear illustrations. One is what happens inside a CPU, and how data is accessed and stored. The other is a lengthy section on programming and operating systems.

The book uses up a lot of space by publishing at the end of every chapter a lengthy review of what has been learnt. This is drummed into the reader through quizzes and crosswords.

There is only sketchy information about the role of minicomputers, one of the most exciting parts of the industry. The topics of robots and CAD/CAM were not well handled and, surprisingly, ergonomics is not mentioned.

However, a comprehensive synthesis which is not weak in parts is rarely found. This one succeeds in its aim, to provide lift-off and familiarity with the whole spectrum of computers.

John Riley

So much good sense!

Controlling Software Projects, Tom de Marco. Yourden Press. £17.

OF course your project is under control. As a team leader or project manager you would not allow your system to get in a mess.

Slippage is not your vocabulary. Others may lack your magic touch but any project you take on will be implemented on time, to cost and require no debugging.

Real project leaders often find this confidence evaporating as end dates loom nearer. If this applies to you de Marco's book is one of the most important you will ever come across.

Every project leader should read it before he starts estimating and controlling projects. Not an over-

ous task as the book is interesting, amusing and absorbing.

Having carried out several years' research into the management of software development this reviewer was delighted to find so much good sense in one volume.

De Marco does not supply estimates or measures, but gives you the means to develop your own. They will specifically reflect your circumstances. In the future the measures proposed may form the basis of industry-wide estimating guides.

At the moment software development methods differ widely so that standardised measures are impracticable. Automobile engineering would have been at a similar stage early this century.

The book should also be read by senior managers. Small seasonal changes are proposed, which could revolutionise software development. The main message is that computer projects are accurately identified and accurately proposed. It is quite clear that, if carefully introduced, changes could significantly reduce turnover and indirectly help to the much mooted shortage of computer staff.

Any project leader who is not his own problems should read the book. And companies should supply it to all their project leaders.

W. Scott-Jackson

SOFTWARE MONTH

Why payroll packages are now worth a packet of money

Money is the software subject this month: or, more precisely, payroll packages. On this page we look at why payroll packages are popular, examine how that popularity boosted one software house on page 18; and look at statutory sick pay on page 19.

PAYROLL was one of the first commercial applications to be computerised, and has always been one of the most popular of packaged products.

There are many reasons for this. In the first place, payroll requirements are very well defined in a way that lends itself to the batch capabilities of the early computers.

In the second place, a major reason for the predominance of packaged payroll is one of corporate disinterest. It is, to say the least, non-profit making. Indeed, it is simply one of those necessary evils that must be tolerated gracefully.

Even where a company has an

No other application changes so consistently from so many sources: government intervention, company/corporate policy intervention, DHSS/Inland Revenue and union intervention, new bank requirements, and so on.

established and proficient software department, the tendency is to employ it in projects that provide a return on investment.

Thirdly, payroll makes heavy demands upon system maintenance. Although many companies start by writing their own in-house system (because it is fairly simple), they eventually buy or rent a package (because maintaining the system is lengthy, expensive, and simply boring).

No other application changes so consistently from so many sources: government intervention, company/corporate policy intervention, DHSS/Inland Revenue and union intervention, new bank requirements, and so on.

And to compound such matters, all these amendments are usually geared around one particular month of the year. Asked what were his major problems, one local government finance/DP manager replied simply: "April".

Finally, payroll is a popular package by virtue of a sound marketing policy on the part of the vendors. Not only is it something that every company with more than just a few employees must have, it falls within the jurisdiction of the man with the company purse strings, the finance director. There is no person better suited

than he to justify company expenditure. As a result, nearly all the early software houses looked towards payroll and other matters financial for their first packaged offerings.

Given this demand for third party software, a three cornered fight has developed amongst the vendors: mainframe and minicomputer packages, bureau systems, and, more recently, microcomputer packages.

One of the strongest arguments for using a bureau is that of confidentiality. Many companies place great store on paying their employees according to their worth rather than within the rigid pay scales of length of service and predefined hierarchical grades.

For this to work, there is usually a strict company policy, sometimes written into the contract of employment, that excludes interpersonal discussion about pay levels. This becomes anomalous if the payroll department knows what everybody else is paid. The answer, of course, is to use off-site bureaux.

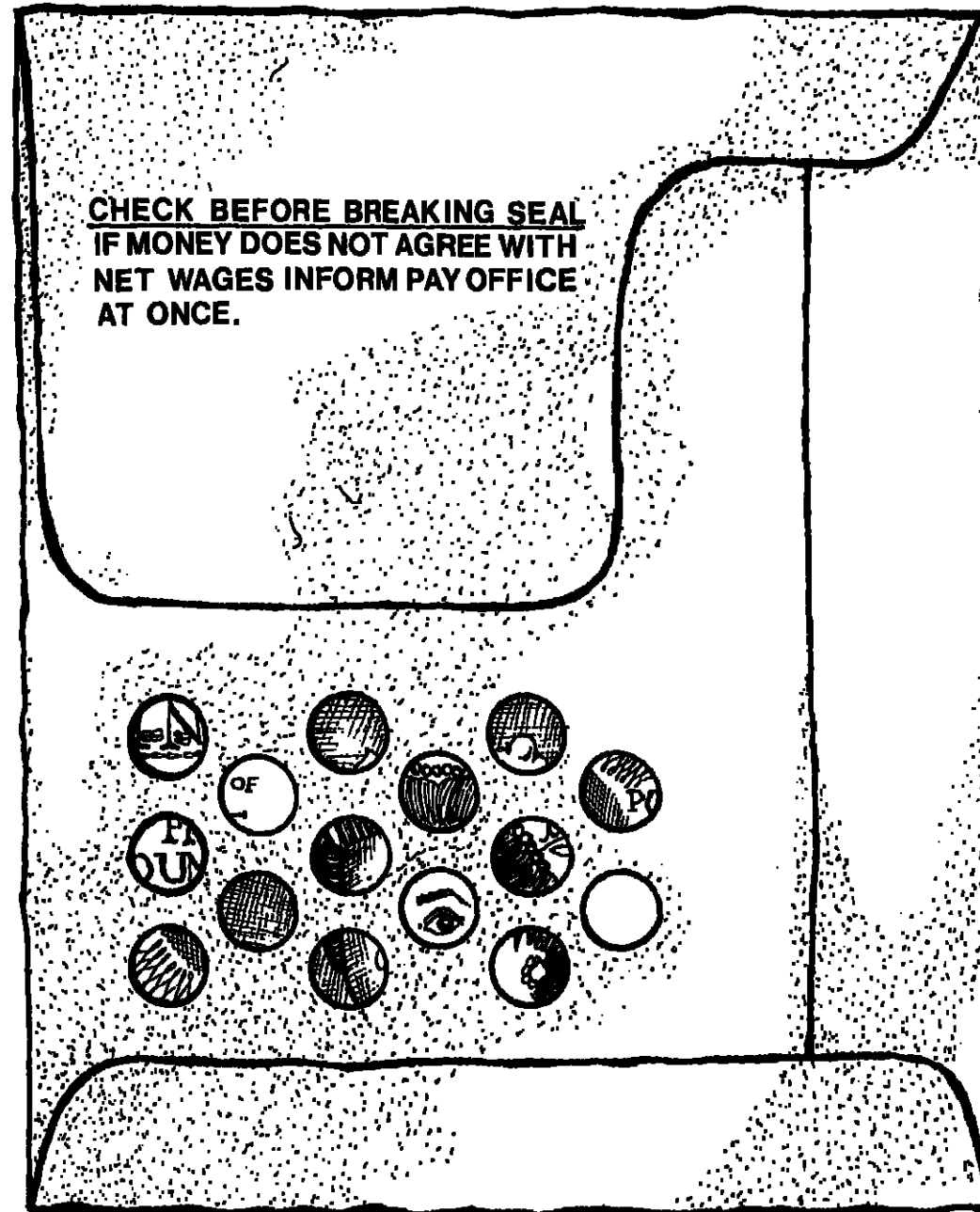
In many ways, however, the boom days of the bureaux have passed. In-house computers are becoming more the norm than the exception that is necessary to support a bureau superstructure. Recognising this, a number of the forward-thinking bureaux have converted into software houses, now selling the packages for which they formerly sold time. Peterborough Software is one example that has taken this route, as are Staveley Computing and Comshare.

Hours Computing developed a payroll system originally for the shipping line T. & J. Harrison, and has since used it extensively on its own timesharing and batch bureau services.

"In addition," claims director Tim Boreham, "it is used by other DEC OEMs and systems houses who wish to provide their customers with a tried and tested payroll system."

It is interesting to note that most of these companies seem to be avoiding micro software. Indeed, a representative of Comshare, a company that went into micro software in a big way with its PlannerCalc financial modeller, pointed out that despite the vast numbers of micro packages sold, mainframe packages still remain the largest source of revenue.

Nevertheless, the impact of the microcomputer will surely be felt sooner or later. One interesting new approach is that of CMG (Computer Management Group). Earlier this year the company launched its Statutory Sick Pay (SSP) system based on the Teletype microcomputer and linked



CHECK BEFORE BREAKING SEAL IF MONEY DOES NOT AGREE WITH NET WAGES INFORM PAY OFFICE AT ONCE.

into CMG's central bureau mainframe computer. It is also available for outright purchase as a package to run on most micros with CPM.

In the short term, the question must be asked: will the microcomputer, with megabyte main storage, 30 megabyte Winchester backing, and 16- and 32-bit processors impact on the mini-mainframe market?

Some large systems software

grate payroll into their corporate accounting routines, with the result that they have to interface into bigger mini and mainframe systems. What I do see happening, however, is increased use of micros as intelligent terminals, linked into mainframes. But there is no doubt that mainframe solutions must continue.

Chris Harrison, managing director of CMG, agrees that the use of

"Larger organisations need to integrate payroll into their corporate accounting routines, with the result that they have to interface into bigger mini and mainframe systems"

suppliers suggest, on the contrary, that the micro is incapable of handling payroll in any meaningful manner. Tim Southern, managing director of PPL-Cyborg Ltd, holds this latter view. "Most of our clients have payrolls in excess of 2,000 employees, and existing microcomputer systems are just not fast enough to handle volumes of this size within the production time available."

"On weekly payrolls, for example, output has to be turned round between Monday and Wednesday morning of the same week. Taking an eight hour day, micros cannot process fast enough."

"Furthermore," he continued, "larger organisations need to inte-

grate payroll into their corporate accounting routines, with the result that they have to interface into bigger mini and mainframe systems"

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nificant step towards the automated office.

But the power and stand alone capabilities of the microcomputer continue to expand. Three suppliers which do not accept that the new generation of such micros are incapable of providing valid payroll systems in their own right included Systeme, Computer House and MPSL.

Systeme is currently developing a new payroll and SSP package specifically for its S-Series microcomputer as well as the PDP 11 range of DEC minis. Derek Cuthbert, product development manager, explained: "In developing the system we have aimed to give payroll users the facilities of a large mainframe package on a micro/minicomputer at standard package prices."

Three suppliers do not accept that the new generation of micros are incapable of providing valid payroll systems in their own right

"It is highly parameterised to allow individual users their own choice of implementation. During development we have maintained close contacts with both existing payroll users and the DHSS, for the SSP requirements."

CMG, written by Computer House (Turnkey), is one of the first payroll packages to be written in C specifically for Unix systems. One distributor, Tetra, markets the product under the name of TetraPay on the impressive new Furune 32.16 micro.

BOS Payroll comes from MicroProducts Software Ltd, and runs under the BOS operating system that has been implemented on more than 60 different computers, ranging from the PDP 11 to the Apple II. One of the more recent implementations has been on the new Sage microcomputer distributed in this country by TDI in Bristol. Sage uses the impressive Motorola 68000 32-bit microprocessor, and has been timed at 12 times the speed of the Apple II.

Perhaps that is why Apple's new Lisa microcomputer has the 68000?

Employees register attendance in the normal manner with either a traditional clock card or a credit-card sized plastic badge. This information is then captured by the system.

Peter Curran, managing director of Mitredinch, continued: "TMS then accumulates hours worked, calculates gross pay, including overtime, premium and bonus payments the employee can clock on at any time of the day, and the system handles any attendance pattern including shifts and flexibility."

"These results can then be fed automatically to another computer, or internally to the payroll program within TMS for final pay processing."

"We foresee," he went on, "a greater integration of payroll with other company control systems. TMS establishes the real time link between individual personnel behaviour and pay reward, giving management a facility to differentiate between individual performance, and enabling efficient workforce deployment. It is a sig-

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The sponsors and organisers of this event are all members of Business Press International Ltd.

SOFTWARE MONTH

One software house claims to calculate 20% of UK pay packets. If the claim is true, Peterborough Software rules the payroll package market

Payroll has paid off for Peterborough

PETERBOROUGH Software claims to be the supplier of the software that calculates the pay packets of 20% of the working population of the UK.

This is a phenomenal success when considered with the findings of a recent independently conducted survey among *The Times* Top 100 companies. This indicated that the majority of companies actually use in-house software.

It means, if corroborated, that Peterborough completely dominates the packaged payroll market. John Mills, the managing director and driving force behind

Peterborough Software, is happy to substantiate the claim.

"We have," he says, "a more up to date database of IBM mainframe installations than even the *Computer Users' Yearbook*. We know what company has which hardware; and perhaps more to the point, who uses what software. We are thus able to plan our sales targets to a fine degree of accuracy."

It is this attention to detail that has taken the company from a bureau without its own computer in 1963 to an international software house with a UK staff of about 180 and ambitious foreign plans, in just 20 years.

And the company has done this mainly on the strength of its payroll package, Unipay, and the associated Unipension and Unipersonnel packages.

It is not often that an independent company can be as successful on the strength of such a narrow product range as Peterborough clearly has been, and this is perhaps a reflection of the unique nature of payroll software. "It is simply a drain on resources," says Mills.

"But it is also an emotive and highly political thing. It's non-profit making, but you must nevertheless do it right - because

if it goes wrong, it could well lead to a strike!"

Mills believes the current success of Peterborough is rooted deep in its past. As a bureau, it had discovered that a number of companies were interested in payroll software. So when the company turned software house, the package it first produced was Unipay.

However, unlike many other packages that are really developed for a single customer and then generalised for the market, Unipay was designed around basic concepts from the start, in a modular fashion that would provide a package as near as possible able to provide all the requirements of all users.

"These basic concepts have stood the test of time," claims Mills. "They are fundamentally, although changed to reflective legislative changes, the same today as they were 15 years ago."

"What is more, payroll principles are remarkably international. All governments want to find the best method of taking money from the people; and PAYE is one of the best methods devised. It is a basic system used in a lot of different countries."

Nevertheless, trade was slow in the first few years. Packaged soft-

ware had developed a bad reputation: it was something that gave three months support and then left the user to his own devices.

But then, as always in the history of hardware and software, IBM took a decisive step and unbundled its software in 1971. At around the same time, the UK's coinage converted to the decimal system, and for a while things improved for payroll vendors.

But another lull in software sales set in and threatened many of the leading companies: SPL and CAP, for example, virtually halved their staff levels overnight.

Software, and particularly mainframe software, is a labour-intensive industry with low-turnover, high-cost products. This type of industry is particularly susceptible to cashflow problems: a few sales the wrong side of the break-even level is the difference between expansion and contraction.

Mills looked at the problem and decided to try rental. "It has nothing new," he said. "The ground rules had already been laid by IBM's rental agreements. It allowed DP managers to get more software on the same budgets."



Payroll is part of a larger application: human resource management.

"Most DP managers had, at still have, unlimited revenue, but very limited capital budgets."

It's a variation on the old way of being able to hire a mainframe, but not buy a micro!

But there are other considerations of equal importance. "People who buy software do it because they don't wish to support it. Payroll has the highest maintenance load of any software other than perhaps operating systems. There are usually four or five separate changes each year - 8 they all centre around April 5th, the start of the new financial year."

There is one change that is predictable: the rental cashflow. Peterborough is able to provide a highly stable software support service.

The result was a very difficult first few years. Rental is, after all, a method of financing the buyer. But once the first year had been survived, a stable and predictable income enabled Mills to plan for the future.

This future revolved around the growing realisation in the UK and North America during the 70s that payroll is really only a part of a larger application: human resource management, comprising payroll, personnel and pensions. It became the vogue to talk of the global corporate database within which human resource management would figure prominently.

In 1974, Peterborough began a collaborative exercise with the British Shoe Corporation, Shell International and several other companies to design a personnel system.

The result, in part, was the realisation of a number of conceptual differences between payroll and personnel administration. "A combined payroll and personnel system is really pie in the sky - it has never yet been attained!" says Mills.

The reasons are numerous, but include the way in which the data needs to be stored: "In payroll, only the master file needs be concerned with personnel; personnel has that plus a corporate file. Furthermore, there are no rules in personnel software, while payroll has many: company rules, company rules, DHSS rules, bank regulations and so on."

All of this is exacerbated by the physical structure of the two company organisations. "Personnel is a career position; payroll is not. The personnel manager will often sit on the board and influence company decisions; the payroll manager sits under the finance manager and does nothing."

Nevertheless, the two systems are both concerned with people.

Continued on page 19



MILLS... "It is an emotive and highly political thing."

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SOFTWARE MONTH

When sickness can cause complication

Statutory Sick Pay (SSP) is part of the overall payroll application - but it's by no means the most trivial part, or the simplest

STATUTORY Sick Pay (SSP) is not a trivial application. Average pay, including overtime and any extra payments made during the week, determines the category of sick pay. But there are many provisions, exceptions and exclusions.

Night working may require the records to be divided over two separate days; pregnancy is excluded; previous claims within the last 56 days, strikers and those held in police custody must be taken into consideration.

In fact, the whole process is so complicated that there are innumerable claims, counterclaims and refutations from the different software suppliers (each one of which is the only company to have got it right so far).

But if you, the user, get it wrong, it could lead to an immediate fine of £200 plus £20 a day for failing to keep accurate records - or a fine of £1,000 or a term of imprisonment or both, depending upon which supplier's claims you are currently reading!

SSP is clearly a part of the overall application of payroll, and with the current vogue for integration should therefore be an integral part of any payroll applications package. But Computer House has estimated that the real cost of modifying an in-house Cobol payroll system can be up to £15,000.

And Semaphore Computer Systems of Godalming, Surrey, has estimated that it will at any rate prove impossible to adapt up

to 90% of all existing payroll applications to meet the new requirements.

This is perhaps the Semaphore and many other small systems houses have solved the problem by producing free standing SSP systems, which, incidentally, include a system from one company that costs less than £100 and runs on the Spectrum home computer. (One wonders how many people a company can afford to employ if it can only afford a Spectrum to run its business systems!)

CMG, however, is one company determined not to fall into the trap of underestimating the task. "While many employers," it claims, "and the computer industry and computer departments in general have totally underestimated the difficulties of implementing for SSP legislation, CMG has studied the complexities and developed methods for SSP administration specifically designed to: cover the inter-relationship between SSP and occupational sick pay schemes; provide a means of absence control (essential because of the 'self-certification' rules of SSP); and overcome the limitations imposed by any conventional microcomputer solutions that might be offered."

To do this, CMG has claimed an investment of more than £250,000 in project development - somewhat more than the £15,000 estimated by Computer House!

Peterborough Software is another company that has treated

Peterborough profits

Continued from page 18

and should therefore run in tandem. This was the approach adopted by Peterborough. By 1976, Peterborough had two parts of the human resource trio - Unipay and Unipersonnel - two separate products that could act as one with shared data.

The third, Unipension, soon followed in response to the 1975 Social Security Pensions Act.

By 1981, all Peterborough software was revamped to provide both online and interactive facilities, but retaining the option for batch processing if required.

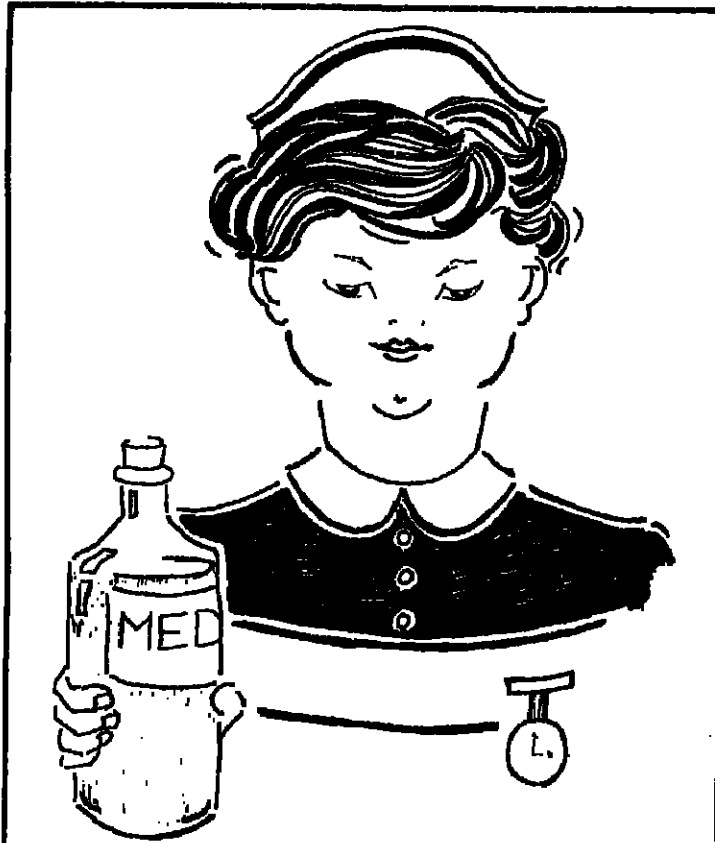
For the future, Mills now sees total integration across the manpower systems. "Not the lip service we currently have. It will be a full database system with English language enquiry facilities and better reporting. The all-singing corporate database is not and never will be feasible; but we see the world as a series of databases, one of which is a people database: payroll, pensions and personnel."

"Since all three departments keep the same records, up to 40% staff savings can be achieved by integration. Peterborough Software is working on the human resource database. This is the way it must be done in the future: and this is the way it will be done - an interactive enquiry based database for human resource management."



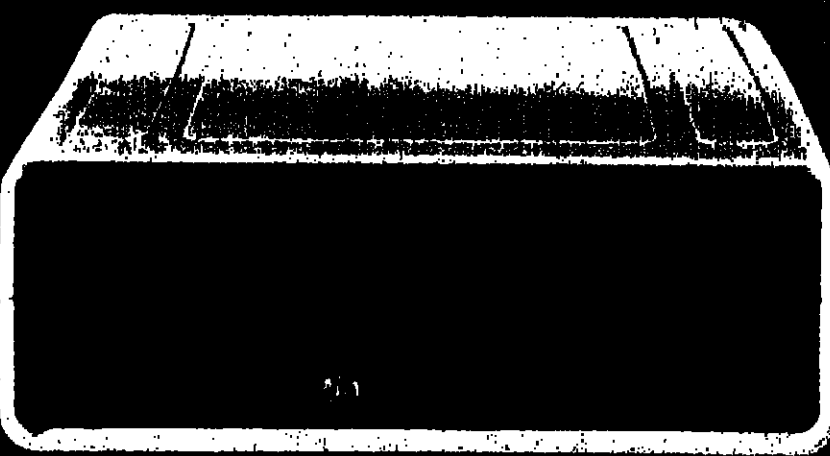
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PROGRESS REPORT



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New Range Additions The Communicator range has broadened to add a new 20 Megabyte 8" Winchester Hard Disk Drive System to the already well established 8 Megabyte and floppy diskette models. Another new system offers 8" floppy disk drives for compatibility of data transfer. With the associated tape and additional Winchester back up systems that add up to eight basic models - all in the same neat, stackable, casing - all based on 8100 bus construction to keep future options in memory, users, peripherals and interface requirements wide open.

New System Additions Communicator operating systems continue to broaden both in options and facilities. An improved CP/M offers enhanced diagnostics, for example, and auto boot from Hard Disk. These basic improvements are reflected in the now tried and tested Communicator multi-user MP/M, which also provides for full CP/M compatibility.

New Communications Options Communicator now offers CP/M and RTTE communications protocols. Individual Communicator

Systems can now operate as intelligent information terminals, integrated with either existing mainframe or mini computer installations, or be part of a shared resource or communications network.

New Range of Terminals Find out more about Comart's new smart VDU. It's a new advanced ergonomically designed unit. It has a 105 keyset detached keyboard, soft green phosphor tilt screen, and a low profile foot. It's a perfect complement to the Communicator in both styling and performance.

Some things don't change Communicator still has Comart's established dealer network and nationwide after sales service back up, supporting thousands of Communicators already at work throughout the UK.

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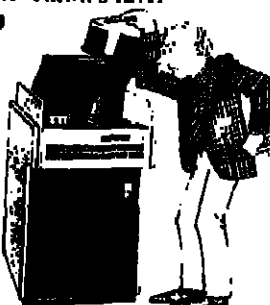
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39 x 3 cols £4568
39 x 6 cols £4568

Box nos. C5 extra. Address back to c/o Computer Weekly, Classified Dept., Quadrant House, The Quadrant, Sutton, Surrey, SM2 5AS

Move into Data Processing Management

Rural Oxfordshire c. £10,500

Our client is a major UK service company that has recently relocated its computer department from London to premises situated in the picturesque town of Banbury, Oxfordshire. Their Data Processing section comprises an ICL 2904 computer and associated hardware including online facilities to a remote location. This system supports a range of commercial applications including Stock Control, Payroll and Accounting. The Data Processing Manager will have total responsibility for the day to day running of the department and enhancements to existing on-line and batch systems. Reporting directly to the General Manager, this is an ideal opportunity for a competent Analyst/Programmer who can demonstrate the confidence

to successfully run his/her own Computer section. A background of ICL 2903/4 computer operations and programming knowledge of COBOL and RPG2 would be a distinct advantage. The company will offer a non-contributory pension scheme, subsidised restaurant and 4 weeks annual leave entitlement. Find out more - phone now on 01-491 4706 quoting REF YY150.

Banbury Tea Warehouses Ltd

IBM System 34 Prog, Analyst/Programmer

Nottingham £7,500-£9,000

Bell Fruit (UK) Ltd is a successful service company within the leisure industry. The company is currently installing a large distributed processing network of IBM System 34's supporting an information processing system for five locations throughout the UK. The Data Processing department employs a small specialist development team who provide an efficient and professional service. To continue their policy of expansion, Bell Fruit is seeking additional staff with a sound knowledge of IBM S/34 systems. The programmer will have at least two years programming experience, preferably RPGII, although training will be given if necessary.

The Analyst/Programmer will demonstrate good communication and analysis skills with a knowledge of RPGII. Some UK travel involved. You will be offered a salary commensurate with your qualifications and you will be working in a first class working environment. Find out more - phone now on 01-491 4706, quoting REF GK802.

BELL-FRUIT (U.K.) LIMITED

IBM Systems

Saudi Arabia (1 year contracts)
The Jobs

Analyst Programmers

with 3-7 years DP experience and
PL1 (COBOL useful), TSO/SPF or

PL1 (COBOL useful), TSO/SPF, IMS DB/DC

Systems Analysts

with 5-10 years DP experience and

PL1 (some COBOL), TSO/SPF, IMS DB/DC

Training Consultants

PL1, IMS DB/DC

£20,000-£27,000 Tax Free + Flights + Accommodation

The Benefits

- * Flights home every 4 months with two weeks paid leave.
- * Free private accommodation.
- * Free food on site and food allowance.
- * All services and laundry cleaning provided.
- * Recreation facilities.
- * Personal banking facilities.
- * Private and business transport.
- * Medical and salary insurance.
- * All visas and flights arranged for you.

The Conditions

You will be employed by our Saudi Arabian partner with housing and all facilities provided on site. Transport will be provided to and from our client, a major oil company, where working conditions are among the best in the Middle East with modern air conditioned offices. You will work at one of the largest computer sites in the world using the most up to date IBM hardware and software.

The contract offers an unequalled opportunity to advance your career whilst saving the majority of your salary without incurring living expenses to pay. This represents a once in a lifetime opportunity to make your future financially secure. Find out more - contact Neil Williams on 01-491 4706 or 01-845 4945 (evenings and weekends).

Knight

Confidential Ref

Analyst/Programmer

(mini/mainframe COBOL)
London

c. £10,000 + Profit sharing

James Burrough PLC is an independent family company and is one of Britain's most successful exporters of gin.

Their computer controlling a 1-megabyte Honeywell DPS4, under GCOS, currently supporting twelve terminals and providing information processing for a variety of commercial and financial applications. The next phase of development will be the implementation of a major on-line Stock Control project.

The Analyst/Programmer will initially be involved in the programming of the Stock Control project but will advance rapidly into a System Design/Analysis role.

You will have a sound technical background incorporating COBOL programming in a mini/mainframe environment and ideally you will be

currently involved in System Design activities. James Burrough will offer you the opportunity to be part of a small but progressive Data Processing team housed in modern air conditioned offices close to the Oval.

In addition, the company offers a wide range of benefits including a profit sharing scheme, non contributory pension, staff discounts, subsidised canteen and flexible working hours.

For further information and an early interview contact Knight on 01-491 4706 quoting REF RC341.

James Burrough

public limited company

Dealer Managers

Locations: London, Birmingham, Manchester
Realistic Earning: £15,000 + Ford Sierra

C.K. Computers Limited is a young and fast growing company dedicated to the marketing of small business systems and peripherals. Their recent success as main distributors for two exciting new products in the UK, has led to the expansion of their operation, to include representation in London, Birmingham and Manchester.

The Dealer Managers will have total responsibility for selling a comprehensive range of hardware, software and peripherals to both dealers and customers.

You will have a successful track record of selling micro computers which should include some experience in Dealer Management. Although reporting to the UK Sales Manager, you will be given the scope to manage your own client

base and therefore you must demonstrate a high degree of initiative and drive. You will be offered a negotiable basic salary plus realistic commission scheme and a company car. Find out more - contact Knight on 01-491 4706 quoting REF YY151.

CK Computers Limited

America - find out the reality

In conjunction with Personnel Associates Inc (a very successful New Jersey-based recruiting and consulting organisation) Hunterskil International has intensely researched the American market, on behalf of you - the British EDP professional. Consequently, we have produced a guide (see below) which describes living and working in the USA.

The USA offers, on average, twice the UK salary rates - and the cost of living is very similar! Additionally, income tax rates are lower and the resulting larger disposable income guarantees a better life style.

Recreationally, America is unsurpassable. Whatever your cultural, sporting or spare-time interest, you will find your ideal. This is especially so in and around New York where boating, swimming, skiing, beautiful countryside, sporting events, theatre, museums, art and good restaurants abound - and the sunny Caribbean is only an inexpensive 2-hour flight away.

Rental accommodation is readily available, better equipped and moderately priced. Commuter transportation is extensive around New York and cars can be obtained at much lower prices (or rents) than in the UK. Petrol currently costs around \$1.15 per gallon.

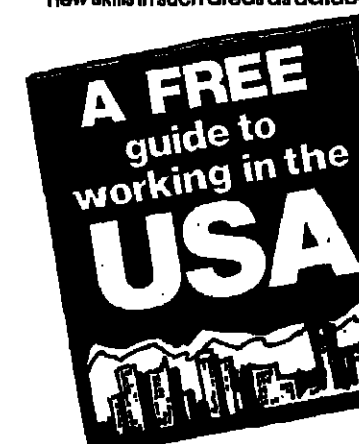
A number of diverse and very successful American companies have asked us to recruit for the following positions. You have the option, in many cases, of working permanently, on a contract basis, or convert from contract to permanent status after an initial exploratory period.

A university education is preferred, but not essential, and we would like to hear from you even if your experience does not match that shown. Over the coming months, we will be advertising extensively on behalf of organisations across the USA.

A free guide to working in the USA

INCLUDES:

- * Cost of Living
- * Taxes
- * Salaries
- * Schools
- * Recreation
- * Visas
- * Transport



H PROGRAMMING & SYSTEMS LTD
(02403) 22201

THE BETTER WAY

Obtain your free Guide now...

Send your CV, post the coupon or telephone for an application form

Tel (02403) 22201

HUNTERSKIL INTERNATIONAL LIMITED
Plymouth House, 7 London Road,
Amenham, Bucks HP7 6HE

Please send me an introductory booklet on America.

NAME _____

ADDRESS _____

Home Tel _____

Work Tel _____

I have experience in the following:

UNIVC ☐ IMS ☐ COBOL ☐ PL/I ☐ SNA ☐ ACF ☐ OS/MVS ☐ DOS/VSE ☐ NCR ☐ MINI Assembler ☐ Telecomm ☐ I have performed duties as: Systems Prog ☐ App4 Prog ☐ Business Systems Analyst ☐ Position required: _____

IDS ☐ BAL ☐ CICS ☐ NCP ☐ Tandem ☐

Position required: _____

Position required: _____

The Hunterskil Group

HUNTERSKIL

SENIOR APPOINTMENTS - £14K +

MSA
The Software Company

SYSTEMS CONSULTANTS

MAIDENHEAD, BERKSHIRE

TO £14,500 + CAR

Here is your opportunity to join MSA Limited, the world's leading independent supplier of packaged application software.

Quality products and first class customer support are two of the ingredients which have led to MSA's excellent growth rate and professional reputation.

Their continuing success has led to the need for more Systems Consultants to provide customer support in the areas of GENERAL LEDGER and ACCOUNTS PAYABLE.

You'll need to be highly professional with good communication skills, an analytical mind and experience as a Systems Analyst in the above application areas.

Experience of working with mainframe packages is also required.

Your role will involve working with customers to ensure successful implementation and then to provide on-going support in the production environment. This necessitates advising on implementation planning, training customers and general problem solving.

These roles are seen as an exceptional opportunity to build on your systems background and acquire valuable business experience through extensive training and work involvement.

Fringe benefits are excellent and include a quality car, BUPA, bonus, share purchase scheme and excellent pension scheme.

For further information, please contact MARK IRENS quoting reference CW1407/1.

HUTTON EXECUTIVE SELECTION LTD.
31 PALACE STREET,
LONDON SW1E 5HW.

TELEPHONE: 01-630 0434 (24 HOURS)

Hutton

SPECIALIST RECRUITMENT CONSULTANTS

SALES MANAGER

32 BIT MINIS

WEST LONDON

C. £30,000 + CAR (Basic C. £15,000)

COMMERCIAL NEW BUSINESS

Yes, our Clients do promote from within, when possible. The problem is when one expands at a rate that makes such decisions impractical. Under those conditions, one needs to look outside for suitable contenders.

We would prefer to talk to candidates who are already Managers or with management experience, preferably in the 32 bit mini computer market place. However, we recognise that successful Sales Executives looking for their first sales management post, may well fit the bill.

The answer is simple. If you are interested in this position and feel you have something to offer our Client, then call BOB BOWER for a discussion.

Ref. CW1407/2

HUTTON EXECUTIVE SELECTION LTD.
31 PALACE STREET,
LONDON SW1E 5HW.

Hutton
SPECIALIST RECRUITMENT CONSULTANTS

SALES EXECUTIVE

CONTINUOUS PROCESSING

BASIC TO £15,000
PLUS GUARANTEE AND CAR

LONDON BASED
MANAGEMENT POTENTIAL

The launch of a new range of computers in competition to TANDEN and CTL MOMENTUM continuous processors has enhanced our Client's already comprehensive portfolio of computer products.

A specific group has been created within the Company's structure to market this new range. Controlled by a Marketing Manager, the group now has a vacancy for a professional Sales Executive with management potential.

The ideal candidate will have experience in:

- ★ D.P. equipment sales.
- ★ Systems sales with strong communications and software content.
- ★ Knowledge of information services available in the U.K., particularly to financial users, e.g. Reuters, Ertel, Topic, Teletext, PSS, Videotex, Teletex.

If you feel your background fits this specification and you are interested in discussing this excellent career opportunity, then telephone BOB BOWER immediately.

Ref. CW1407/3

HUTTON EXECUTIVE SELECTION LTD.
31 PALACE STREET,
LONDON SW1E 5HW.

Hutton
SPECIALIST RECRUITMENT CONSULTANTS

SENIOR SALES

CITY

DISTRIBUTED PROCESSING, OFFICE
AUTOMATION, LAN's

BANKING/INSURANCE

£24,000 UP FRONT + CAR

Our Clients manufacture and sell a wide range of distributed data processing and local area networks to large commercial and financial organisations.

They have two important vacancies in the City for Senior Sales Executives with experience in selling to the Banking and Insurance Industries and this must include an intimate knowledge of either or both.

The first year's guaranteed income illustrates the importance of these positions and there are good management prospects in a relatively short time frame.

Please telephone BOB BOWER for further information.

Ref. CW1407/4

HUTTON EXECUTIVE SELECTION LTD.
31 PALACE STREET,
LONDON SW1E 5HW.

Hutton
SPECIALIST RECRUITMENT CONSULTANTS

SENIOR APPOINTMENTS - £14K +

CITY OF SHEFFIELD
HEAD OF COMPUTING SERVICES
(Senior Assistant Treasurer status)
Up to £18,828

**ASSISTANT HEAD OF
COMPUTING SERVICES**
(Information Centre)
Up to £17,550

Sheffield City Council serves the fourth largest city in the United Kingdom, employs over 30,000 staff and has an annual turnover of over £400m. The Council is reviewing its computer policy and has an ambitious development plan based on an I.C.L. Dual 286 installation and an extensive network of D.R.S. terminals and work stations.

The above two key positions recognise the importance placed by the Council in developing a long-term information systems strategy and in seeking new solutions to the information needs of user departments.

Candidates must have over five years' experience in the management of a large D.P. department and be able to demonstrate a successful track record in systems development and implementation.

Assistance towards the cost of relocation expenses together with temporary lodging allowance will be provided in appropriate cases.

Letters of application to the City Treasurer, Town Hall, Sheffield S1 1UL to arrive no later than 1st August.

It is the policy of Sheffield City Council to provide equal employment opportunities and consideration will be given to all suitably experienced and qualified applicants regardless of handicap, sex or race.

(4628)

SALES EXECUTIVE

£30,000 plus car etc

We are the largest independent supplier of IBM equipment in the UK. Recently we became the first computer leasing company to obtain a full listing on the London Stock Exchange.

Over the past two years we have successfully expanded our marketing staff and we now wish to recruit three additional sales executives who will be based in our London office and will be part of separate sales teams reporting into regional managers.

We sell and lease all of IBM's large processors including the 43XX and 308X series, plus current disks, tapes and I/O equipment. We have a large existing customer base which predominantly consists of major users.

Applicants will need to have already demonstrated a successful track record in selling computer systems although not necessarily IBM equipment.

If you are interested in a career with us please send a CV to:



Ashley H Mitchell
14 Welbeck Street
London
W1M 7PF
"United Leasing the IBM alternative to IBM"

BOX NUMBERS

Box number replies should be addressed to:

Box Number
c/o Computer Weekly
Quadrant House
The Quadrant
Barton, Surrey GU2 8AS

BUSINESS SYSTEMS MANAGER

The Company

McKechnie Metals Ltd, Manufacturers of non-ferrous extrusions in Rod & Section located in Aldridge, West Midlands.

THE JOB

Require a Manager to be responsible for the review of all systems and in particular to identify, develop and implement a Computer based system within the company, as well as insuring the correct Hard/Software is available and suitable for each task.

THE PERSON

Preferred age between 30 and 40, with minimum of 4 years data processing experience as a Senior Systems Analyst or project leader level. Will have experience of 'On-line' as well as Batch Systems. Knowledge and/or experience of ICL would be an advantage with the ability to deal with all levels of Management.

THE REWARD

Attractive Salary plus an employment package including Contributory pension, Sick Pay, Annual bonus etc.

Those wishing to apply should do so in writing stating all relevant details to:

The Personnel Director,
McKechnie Metals Ltd.,
Middle More Lane,
Aldridge, Walsall,
West Midlands WS9 8DN

(4650)

High Technology Recruitment Consultant

On Target Earnings
c £20,000 + Prestige Car

We have an established and excellent reputation for successful recruitment in High Technology and CAD/CAM companies. This increasingly important division in our company compliments our significant and highly respected name in the fields of Retained Executive Search, Data Processing, Accounting and Sales and Marketing Recruitment.

We urgently require an experienced Recruitment Consultant who wishes to specialise in the hi-tech market. It is essential that you are highly motivated, enjoy a demanding, fast-moving yet open environment and are willing to make a significant contribution to the development of the business.

Targets are extremely realistic for the calibre of person that we require and you will be surprised by the earnings potential. The benefits package being totally flexible.

This is a unique opportunity to expand your talents and ideas in a young, dynamic organisation.

Please contact in strictest confidence:
Adrian Thorley.

Ferguson Thorley Bowles
Associates Limited

International Personnel Consultants
15 Clarence Street, Staines, Middlesex TW18 4SU
Telephone: Staines (0784) 59247. Telex: 8814148

Systems Manager

Here's your chance to join a major International Company

Salary: In excess of £15,500

West London based

A leading International Company of outstanding reputation urgently seeks a highly professional Systems Manager, to be part of their expanding group in West London, although travel abroad to Europe will be necessary.

The task is a challenging and responsible one and requires someone who is capable of working under pressure and making the right, important decisions.

The successful candidate, ideally aged over 27 years, must have worked as a Programmer, through to Business Systems Analyst and be proficient in the following areas: COBOL, Programming, General application packages, Project management, Comprehensive system development methodologies, Analysing of business systems, Data communications and Communications with users and senior management.

A salary in excess of £15,500, plus the usual benefits package is offered. For further information about this vacancy, either telephone Steven Knowles-Baker on 01-370 2012/3 or send a brief c.v. to him at N.K.B. Associates Limited, 168A Gloucester Road, London SW7 4TH. All enquiries will be treated in the strictest of confidence.

(4631)

The Computer Specialists... Placing Computer Specialists

OPERATORS

IBM VM/CMS OPERATORS £9,000++

★ CAREER OPPORTUNITIES
★ 22 DAYS' HOLIDAYS
★ SPORTS AND SOCIAL CLUB
Two vacancies currently exist within this leading manufacturing organisation based in London.
Our client requires ambitious, senior operations professionals with a minimum of two years' experience. Duties will include the utilisation of a large on-line system.
These positions would suit candidates willing to expand their computer knowledge as the company offers excellent career opportunities.

PDP RSTS/E OPERATOR c £8,000

★ JOB SECURITY
★ FREE LIFE ASSURANCE
★ CAREER PROSPECTS
Due to promotion this rapidly expanding site requires an enthusiastic, competent Computer Operator with a minimum of 18 months' RSTS/E experience. Excellent opportunity for career development. Benefits include free life assurance, medical insurance, luncheon vouchers and profit share scheme.

VAX VMS OPERATORS c £7,800

★ EXPANDING SITE
★ GENUINE CAREER PATH
★ EXCELLENT WORKING CONDITIONS
This rapidly expanding highly successful advertising company, are seeking to recruit enthusiastic, career minded DEC operators, with a minimum of 12 months' experience. VMS exposure not essential but would be a distinct advantage. Company offers excellent career path with excellent working conditions.

DEC/PDP/VAX OPERATORS c £8,000

We have many requirements for a selection of DEC operators for some of the fastest growing computer companies based in London and the Home Counties.

OBJECT 242 9796

computer recruitment limited 15 Red Lion Square London WC1R 4QH. Telephone: 01-242 9796

SYSTEMS & PROGRAMMING

ANALYST/PROGRAMMERS IBM PL/1 To £16,000

Our client, a well-known firm based in Central London are currently engaged in the development of major systems. They retain IBM mainframes and use CICS, DL/1 and IMS. Candidates should possess a minimum of 2 1/2 years' PL/1 experience preferably gained in an ON-LINE environment. Applicants will be involved in the development of a wide variety of large systems with user contact. Excellent prospects to Project Leader level.

★ EMPHASIS ON TRAINING
★ PROMOTION PROSPECTS
★ REWARDING CAREER

PROGRAMMER IBM COBOL To £11,000

This PRESTIGIOUS firm of Merchant Bankers in the CITY can offer an exciting career move for a programmer with a minimum of 12 months' IBM COBOL and 6 MONTHS' CICS experience. Ideal applicant should be ambitious, and looking to progress in to analysis. In return you will be offered varied financial development projects in a progressive environment.

★ SUBSIDISED MORTGAGE, PENSION AND LIFE ASSURANCE
★ INTERNATIONAL TRAVEL
★ TRAINING IN DL/1

PROGRAMMER/ANALYST IBM COBOL To £11,000

A rapidly expanding Service Company based in the City seeks a Programmer or a Programmer/Analyst with a minimum of TWO YEARS' COBOL, some of which should have been gained in an IBM environment. This is an ideal opportunity for an ambitious individual to become involved in a wide range of hardware, software and applications. Opportunities for TRAINING, career advancement and travel are excellent.

★ VERY VARIED WORK
★ USER CONTACT
★ TRAINING IN TP AND DATABASE

★ TRAINEE OPERATORS/PROGRAMMERS c £5,500

We require young enthusiastic candidates wishing to pursue a career within the computer industry.
If you are aged between 18-25 and have a minimum of two A-levels, please call us now to discuss your future.

PROGRAMMER ANY COBOL £9,500

An exciting opportunity to broaden your experience is offered by this international company based in the City. They retain IBM MAINFRAMES AND IBM MICROS. If you are an ambitious young programmer who snuffs early responsibility, lots of training, user contact and progression in analysis, with a minimum of 12 MONTHS' COBOL, telephone now.

★ SCOPE FOR ADVANCEMENT
★ EXPANDING SITE
★ TRAINING ON IBM MAINFRAMES AND MICROS

PROGRAMMERS IBM PL/1 To £12,000

Major expansion within this progressive company within Central London has led to vacancies for all levels of Programmers. Opportunities exist within the Systems Development Teams for people with a minimum of 12 MONTHS' PL/1 experience. Our client retains IBM mainframes running under MVS using CICS, DL/1 and Jackson Structured Programming. If YOU wish to work in an ON-LINE DATABASE environment with excellent TRAINING, TELEPHONE NOW!

★ NEW DEVELOPMENT PROJECTS
★ FLEXITIME, SUBSIDISED RESTAURANT, PENSION AND LIFE ASSURANCE

ANALYST/PROGRAMMER IBM COBOL To £13,500

This well-known company based in WEST LONDON, offers fantastic opportunities for individuals with a minimum of THREE YEARS' COBOL and some DL/1 experience. The company retains IBM 4341 running under DOS/VSE using COBOL, CICS, and DL/1. If you are interested in SYSTEM DEVELOPMENT work, training in CICS and career progression telephone now.

★ PROGRESSION TO PROJECT LEADER
★ EXCITING, PROFESSIONAL ENVIRONMENT



WESTBURY HOMES (HOLDINGS) LIMITED

are seeking someone, preferably between the ages of 20-25, with the following DATA GENERAL EXPERIENCE:

- at least one year of programming in business basic
- at least two years of commercial applications programming e.g. accounting, modelling
- practical operations management under RDOs, AOS, or AOS/VIS

The Westbury Homes Group is the largest privately owned firm of house builders in the UK.
The Company operates from Cheltenham where the successful candidate will be based.

We have had an in-house computer facility for two years and are about to undertake our next phase of expansion. The position attracts a salary of not less than £7,000 per annum. A company car is provided.

Other benefits include a contributory pension scheme and health insurance.
Relocation expenses will be payable to the successful candidate.

Applications should be made in writing giving full details and quoting reference number CW/1 to: The Group Personnel Manager, Westbury Homes (Holdings) Ltd., Westbury House, Lansdown Road, Cheltenham, Glos. GL50 2JA.

WESTBURY
Building you value is our business.

ENGINEERS

EUROPEAN SUPPORT Opportunities to join processors in Distributed DP, Office Automation, Synch/Ayana Comms, Time-sharing and Fault-tolerant systems, Protocols, Op Systems, Software - US/Euro training. Ref: M 082.

FIELD SERVICE, Manchester, Birmingham, London and South. Career appointments - commensurate with a flair for software or board level with experience on recognised standard hardware + personality! Ref: M 147.

TECHNICIAN, All areas - to £9K. In-house support from Mainframes to Micros, peripherals to cable TV through analogue and processor-based electronics, test, O.A. & D etc. Ref: M 234. WHATEVER YOUR LEVEL GET YOUR CAREER MOVING AND EXPANDING.

RING MIKE HILL NOW AT
ab executive (kingston) ltd

01-648 8441 (office) 01-394 2388 (eves etc.)

COMPUTER PROGRAMMER

An opportunity exists for an experienced RPG 11 programmer to become involved in the future development of data processing within the M.Y. Group of companies.

We are currently operating two IBM System 34's which provide a service for many of the companies within the Group - three of which are on-line.

Suitable candidates must be able to get on with people in a busy department. The successful applicant will be involved in many varied and challenging applications and be rewarded with an excellent salary reflecting the importance placed on this appointment.

MY
Please write or telephone:
Mark Paxton
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Want to work in SURREY, SUSSEX HANTS, BERKS or KENT?

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IBM OPPORTUNITIES

MVS PROGRAMMER To £10,000

Have you 18 months + IBM MVS COBOL experience? As part of a development team you will be utilising an IBM 3033 under MVS with on-line and database facilities. The firm is based in the City and offers perks including bonus and lunch allowance. REF C/2610

PL/1 - LATEST IBM KIT!!

£NEG
Currently a PL/1 programmer with two years' experience? My clients, based on the London/Middlesex borders would like to hear from you. They offer immediate team leading responsibilities and the latest chance to progress quickly, with training into analysis. The development projects are of a manufacturing nature and include sales order and accounting systems. OS/MVS expertise is preferred, training will be given in CICS and TSO if required. This is an excellent opportunity for a programmer to further his career. REF D/2161

IBM ANALYSTS To £11,000

Opportunities have arisen for ambitious analyst/programmers and programmers to move completely into analysis. An IBM background is the essential requirement, and on-line experience would be ideal. You will be working on major new projects and be involved with the latest database techniques. Graduates with at least six months' commercial experience within the computer industry may also apply. REF G/2518

PROGRAMMER c £8,500

SURREY. Excellent opportunity to widen your experience at this multi-mainframe food company. If you offer 12 months + IBM MVS COBOL or ICL COBOL you will be trained on a variety of machines including DEC VAX. Non-contributory pension, subsidised restaurant and cheap food. REF C/2613

IBM PROGRAMMER £8,000

ESSEX. Programmer required with a minimum of 12 months' IBM COBOL under DOS/VSE with CICS and DL/1. You will be an integral part of a team developing real-time systems, with each programmer having his own terminal. Prospects are good and within a short time of joining the company you will be trained into analysis. Amongst other benefits the company offer staff restaurant and sports and social club. REF G/2597

IBM COBOL To £10,000

HANTS. Exciting opportunity with this IBM 4341 site for a keen programmer with two years + IBM COBOL and DL/1 experience. You will be developing financial systems using IMS, DL/1, and CICS, and installing them at various European sites, so you must be willing to travel from time to time. Initial training will be given in the U.S.A. REF C/4281

PROGRAMMER To £10,000

CITY. Can you offer two years' COBOL or ASSEMBLER experience either on a DEC PDP or IBM mainframe? This leading City Bankers have additional requirements for either a DEC or IBM programmer to be retained on to new kit. A minimum of two years' experience is required together with initiative and self-motivation. A full banking package is offered which includes mortgage subsidy. REF G/2612

PL/1 PROGRAMMERS To £10,000

This major professional organisation based in the heart of London like to hear from PL/1 programmers with 12 months + experience who wish to further their career whilst training in Assembler, and TOTAL. You will play an integral part in a team developing new real-time software packages for the company's prestigious clients. There will be much client contact and the chance is also offered to progress into analysis. If you feel that this position is of interest and are looking to further your career call me now. REF J/2527

ENGLEDOWN

Brushfield House, 12 Brushfield Street
Bishopsgate, London E1 6AN
Telephone: 01-247 3356 (24 Hours)

RPG III To £12,000

MIDDLESEX. Outstanding opportunity with fast growing insurance firm in North-West London housing an IBM System 38. If you can offer 18 months + RPG III experience, you will have a choice of applications work or technical programming for which training will be provided. They occupy their own building, and you will be joining a young and progressive organisation. REF C/2359

ANALYST/PROGRAMMER To £10,500

BUCKS. Two years + IBM System 34/RPG II required for this position based in the heart of Buckinghamshire. You will be an important member of a small team developing stock control and inventory systems. Some knowledge of analysis is essential but full training will be given. One of the important qualities that the candidate should possess is, self-motivation and the ability to work on own initiative. REF G/2469

RPG II RETRAIN To £12,000

A chance to be trained on IBM System 38/RPG II programme/analyst to take part in a major conversion project, which will involve liaison with senior managers. After project is completed, you will receive RPG II training and work exclusively on the IBM System 38 from then on. REF C/2611

IBM SYSTEM 34 AND 38 £8-11,000

Outstanding opportunities with Covent Garden-based software house for experienced RPG II or III programmers and analyst/programmers. You will be given every opportunity to increase your technical skills, whilst working on exciting development projects, either as part of a small team or occasionally on your own, with total responsibility for your own client base. REF C/2468

ANALYST/PROGRAMMER RPG III To £12,000

CITY. This new IBM System 38 site require an additional analyst/programmer, preferably with 12 months + RPG III experience and a good analysis background. Applications are all of a financial nature, and as the company are still in the process of converting from IBM System 34 to 38, some maintenance work will also be involved. Benefits include interest free season ticket loan. REF G/259

ANALYST/PROGRAMMER £11,000

OXFORD. Analyst/Programmer with experience on IBM System 34/RPG II required. You will be involved with the design and specification of new projects that are currently underway, and be a member of a small team. Beneficial location, and discount on company products. REF G/2522

BURROUGHS - COBOL To £10,000 + relocation

Manufacturing concern based on the London/Kent borders and currently housing B195 equipment in a mixed on-line and batch environment. New development projects have created opportunities for Analyst/Programmers to join teams involved in Order Processing and Stock Control Systems. A COBOL programming background is required, with a minimum of one year's Burroughs mainframe experience. You will be working in modern offices, and benefits include 23 days' holiday, an annual bonus, and relocation assistance. REF A/2557

HONEYWELL - COBOL £EXEC

If you can offer in excess of two years' Honeywell mainframe experience then my Essex-based client can offer you a challenging and worthwhile career, within their prospering organisation. This technological company seek an Analyst/Programmer hopefully with TDS, DM4, and COBOL expertise. You will play an integral part in the development of new projects in both a financial and commercial areas. There are also positions available for programmers with less experience. Please now for more details. REF A/7112

DEC/VAX - BASIC +2 c £11,000

This Middlesex-based scientific concern has recently converted from PDP to VAX machines and are seeking Analyst/Programmers with experience on either kit. There is much development work as the company has recently embarked on some exciting new projects involving graphics and networking. Experience in BASIC essential and full training in VAX, VMS can be given where necessary. Company benefits include 23 days' holiday, subsidised restaurant and free life insurance. REF A/2559

HEWLETT PACKARD - COBOL c £9,000

My clients, a City-based commodity broking organisation, is expanding its development team to include a Programmer/Analyst with 12 months + experience. As part of this team you will soon become involved in most aspects of development from design to implementation. Hewlett Packard 3000 background is essential, hopefully you will have utilised IMAGE, VIEW and QUERY. This is an excellent opportunity for a programmer to gain varied and practical experience whilst pursuing a worthwhile career. Applications are mostly financial and accounting. REF A/1010

TRAINEE ANALYST - UNIVAC c £9,500

Excellent opportunity for a Programmer with 18 months + UNIVAC mainframe expertise to train as an analyst with this Essex-based company. Currently the company are developing entirely new systems, and are working with two UNIVAC 1100 machines utilising the latest real-time and database techniques. Full training will be given in all aspects of systems design. Applications include finance and stock control. REF A/2295

FORTRAN - PDF £NEG

Can you offer a minimum of two years' FORTRAN expertise, on DEC/PDP equipment? You will become involved in the development of engineering and scientific projects, using graphics. Extensive training is offered in RSX-11-M, CP/M, UNIX and MACRO II if required. Kent based, my client is seeking Programmer/Analysts with the desire to move into systems work in the near future. Salary will be more than commensurate with your experience and other benefits include Luncheon Club and Sports/Social facilities. REF D/1159

COBOL-ICL To £11,000

This major and successful Essex based bureau, is expanding and is currently seeking ICL expertise at many levels from 12 months upwards. COBOL is essential but training will be given on the very latest operating systems and software. You will be encouraged to increase your skills whilst completing exciting development projects of a financial nature. You will also be given the opportunity to train on a new machine. REF D/2425

BASIC - DEC PDP & VAX

To £11,000 + mortgage
My clients are currently seeking programmers and analyst/programmers with a minimum of 18 months' BASIC experience on either PDP or VAX machines. The majority of work is of a development nature and will involve the successful applicant in much user contact. Candidates with PDP backgrounds will be given training in VAX, and those that already have a degree of experience will have the chance to improve and utilise their skills. The company offers many financial benefits including low interest mortgage; bonuses; non-contributory pension and free B.U.P.A. REF D/2600

BURROUGHS - COBOL

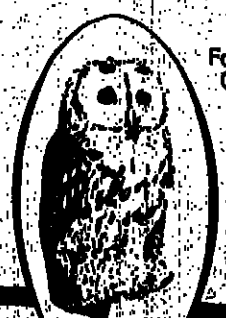
To £10,000 + relocation
Manufacturing concern based on the London/Kent borders and currently housing B195 equipment in a mixed on-line and batch environment. New development projects have created opportunities for Analyst/Programmers to join teams involved in Order Processing and Stock Control Systems. A COBOL programming background is required, with a minimum of one year's Burroughs mainframe experience. You will be working in modern offices, and benefits include 23 days' holiday, an annual bonus, and relocation assistance. REF A/2557

DEC - RETRAIN TO IBM! c £9,000

Exciting opportunity for a DEC/PDP BASIC +2 programmer to begin retraining almost immediately on a new IBM 4331 using CICS. You will be required to complete some maintenance on the DEC, whilst developing projects on the IBM. Applications include Order Processing, Management Information, and Ledgers. London-based, my clients offer a good career path, excellent salary and extensive training. REF A/2369

DATAPoint or TEXAS INSTRUMENTS £9-13,000

Two outstanding opportunities with London and Middlesex-based software houses. One requirement is for a Datapoint programmer with Databus and Database experience to develop commercial and communications systems. The other for a COBOL Analyst/Programmer with Texas Instruments or other mainframe COBOL experience. Both offer full benefits package and very high salaries for the right people. REF D/2615/4



HOWLETT

For further information contact Nick Lewis (Middx positions) or Chris Chetade (other positions)
HOWLETT COMPUTER SERVICES
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Beds LU7 7BR
Telephone 0525 382555 (3 lines) or 025 872 221 (evenings/weekends)

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BAHRAIN

Bahrain, with an island population of some 350,000 has a growing diversified economy, the local population is extremely hospitable.

Hot summers and mild winters are a background to extensive outdoor leisure activities; sailing, fishing, water ski-ing and wind-surfing are all very popular. Tennis, squash, football and rugby are all well supported. There are many clubs, including British clubs, supporting all activities.

In the evening Bahrain offers many excellent restaurants and a variety of cabaret and theatre entertainment at one of the many five-star hotels.

The General Organisations for Social Insurance was established in Bahrain in 1976 to provide a national pension plan for Bahraini employees together with a work accident insurance scheme for the entire labour force. Further branches of social insurance; sickness benefit and family allowances are planned.

The scheme currently has some 100,000 active members paying monthly contributions to the Organisation. This income is invested extensively in Bahrain and to a lesser extent, abroad.

The Computer Services Department supports these activities and is currently controlling the payments and registration of workers in the scheme.

The Department has 20 staff and operates an IBM 4331 1 MB machine with 1200 MB fixed disk. A CICS driven User network of 15 terminals is supported at the current time under IBM's new operating system SSX.

SENIOR SYSTEMS ANALYST

up to STG. 25,000

A Senior Analyst is required to carry out systems development functions and oversee the work of a small team of Analysts. The Department is still very much in its infancy so the need to establish well documented system standards and to keep a broad outlook of the overall direction of systems development will be needed for this managerial appointment.

SENIOR ANALYST/PROGRAMMER - CICS SPECIALIST

up to STG. 22,000

A Senior CICS Programmer is required to function in an Analyst/Programmer role to both develop CICS applications and also to oversee the work of junior staff. The person appointed will have extensive CICS experience and will be expected to support the development of programming standards in this area.

Both appointments will require applicants to be of graduate level.

These posts are offered as one year renewal contracts with five weeks' holiday. Appointments may be either on single or married status. Annual return air fares will be provided together with a contract completion payment. Free accommodation is provided by the Organisation.

Salaries are tax-free and will be paid in the local currency. Our currency is Bahraini dinar. Interested applicants should forward detailed resume to the Computer Manager, P.O. Box 5319, GOSI, Bahrain. Interviews will take place in London during August

WICAT
Systems Ltd.

WICAT Systems, formed in 1976, has the distinction of being the first company in the world to commercially offer the 68000 processor. They are one of the market leaders with a comprehensive and highly successful range of 16 bit multi-user systems, complemented by an extensive range of vertical market software, all produced by the company.

WICAT are expanding their already substantial organization, (T/O in excess of \$40 million per annum) by opening their new Headquarters in the Thames Valley.

As a result of this expansion WICAT are seeking to employ the following support personnel:

U.K. SUPPORT MANAGER THAMES VALLEY Over £20K + Car

This is a key management position within the company and responsibilities will include selecting and launching UK software packages to be made available under the WICAT label. The position involves working closely with the salesforce, communicating at high levels in both pre and post sales situations, and supervising the day to day running of this busy support operation.

Ideally the applicant will already be running a support team, have a knowledge of UNIX, or commercial operating systems, and understand the needs and demands of real-time, commercial systems and the concepts of database systems.

SOFTWARE SUPPORT CONSULTANT

THAMES VALLEY Over £12K + Car

We are looking for a person to join the software team of this leading manufacturer at their new Headquarters.

The position involves the development and maintenance of software running on the Motorola 68000, 16 bit multi-user system.

Ideal applicants will be those who have commercial experience using COBOL, FORTRAN, PASCAL or C; a knowledge of UNIX would be advantageous. Above all, applicants must be user and solutions orientated.

Both positions offer exciting opportunities to join one of the most successful and rapidly expanding high technology companies in the UK.

The company offers generous fringe benefits but the real benefits derive from working for a growing company which is already one of the outstanding successes of the 1980's.

For further details contact Andy Cousins at our Reading office or write sending a full C.V.

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a subsidiary of Motorola Ltd

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As a major supplier of data communication products in the UK we place a high emphasis on the quality of our technical support.

Currently we have vacancies for APPLICATIONS ENGINEERS based at our THORNTON HEATH and MANCHESTER offices to join a group providing technical support to our UK sales staff. Successful applicants will need to demonstrate:

- Experience in Network planning and organization
- Knowledge of communications protocols
- Ability to clearly present technical solutions verbally and in a written format
- A good personal presentation

It is anticipated that you will be either a graduate in appropriate discipline or able to demonstrate equivalent experience.

An attractive salary is offered, plus the use of a company car. Other benefits include life assurance, private medical plan, pension scheme, all non-contributory, twenty days annual holiday.

Please telephone for application form
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TAUNTON

Department of Engineering

LECTURER GRADE II
IN COMPUTING (TWO POSTS)

These two posts are available from September 1st, 1983 as soon as possible thereafter and must be filled by then January 1st, 1984. Essential requirements are a degree or professional qualification, some previous computing experience, or teacher training and experience of a computer in commerce and/or industry.

Further particulars and application forms, S.A.A. 100, Chief Administrative Officer, Somerset College of Arts and Technology, Wellington Road, Taunton TA1 5AX.

Closing date: July 25th, 1983.

VMS Specialist

Berks. £11K-£13K + car

We are urgently seeking a post-sales support person to take responsibility for the support of our client's market-leading range of system software for VAX/VMS. The successful applicant will have a good client manner and have already worked extensively with VMS in a support or development role. Full product training will be available if required.
Contact Brian Coates.

IBM Systems Support.

N.W. London £13K + car

We would like to hear from candidates who have system level knowledge of VMS and who can find their way round the internals of VSAM, JCL, Link Edit maps etc. Your task will be to support our client's internationally successful project management package. Product training and excellent prospects in a company with an impressive record.
Contact Terry Harvey.

Real Time Micro Systems

Gloucs. £8K-£10K

With this client there is all the challenge and enjoyment of real time systems; controllers and concentrators gathering data and large networks of linked processors all in on-line operation. We would like to hear from programmers with assembler and a high level language, e.g. PASCAL, CORAL, who believe they have something to contribute.
Contact Terry Harvey.

DEC Analyst/Programmers

Camb. £8K-£12K

A small systems house specialising in supplying timesharing services and turnkey systems to clients in the finance, manufacturing and distribution sectors of industry requires additional staff urgently. Opportunities exist to become involved at all levels with a variety of projects. Most of the development is in BASIC+2 and familiarity with this language is essential.
Contact Brian Coates.

Software Support

Middx. to £14K + car

Take this opportunity to join one of the most successful computer companies of our time. You will need several years technical software experience to include: real time, data communications and/or database systems. Analysts with banking or financial systems experience would also be of interest. You cannot fail to be impressed by this client.
Contact Terry Harvey.

Electronics Engineers

Bucks. £10K-£14K

A world leader in the design and manufacture of CNC systems has additional requirements resulting from growth. We are seeking electronics engineers who can work from design level through specifications, costing, prototyping and production in a manufacturing environment on advanced control systems. Ideally a sound engineering background in a similar position is preferred.
Contact Terry Harvey.

Sen. S/W Engineers

Berks. to £11,000

A small development team working on product implementation in the area of international telex systems is seeking additional experienced software engineers. Successful applicants will work closely with electronics designers on new products and facilities. They will play a full part in providing project plans, monitoring schedules and training junior engineers in procedures and techniques. PDP11 and Intel development tools.
Contact Terry Harvey.

Project Management

Herts. to £14,000

To provide consultancy on and undertake the specification, design and implementation of systems software (executive software, interface handlers, language systems, etc.) for real-time scientific applications with a British manufacturer. Fluency in Assembler and one or more of CORAL/PASCAL/BCPL in a real-time environment is essential, as is a degree, preferably in Computer Science.
Contact Brian Coates.

Programmers Minis/Micros

Berks. £9K-£12K

A successful company with a product having a special place in the communications and travel industry, requires several programmers at different levels to join existing development teams. Areas of relevant expertise include Z80 Assembler, PDP11 systems, UNIX and 'C', PLZ, Viewdata, CP/M, comms and travel agency applications. Excellent benefits include special holiday discounts.
Contact Terry Harvey.

IBM Assembler Programmers

Middx. £8K-£15K

Our client is a small friendly company with a varied workload. We are seeking two or more programmers with a minimum of one year's experience including CICS, SHADOW, DL/I, VSAM and general applications development. This is no 9-to-5 job; enthusiasm and self-motivation are required together with considerable versatility. High rewards await the right candidate.
Contact Brian Coates.

Systems Consultants

Middx. to £18,000

A rapidly expanding computer services and consultancy company requires top level specialists in data communications, distributed processing and electronic point of sale systems. Successful applicants can expect to become involved in any or all activities from: Consultancy, project management, system design, program development, system testing, installation and education. Rewards will be consistent with the level of experience.
Contact Brian Coates.

DEC Software Applications

Hants. £9K-£12.5K

A major international company has several vacancies created by expansion which require DEC software expertise. Systems are from PDP11 to VAX with experience required in Macro 11, FORTRAN, BASIC, Pascal and Ada. Projects cover industrial control, instrumentation, real time simulators and in-house applications. If you have from two years experience upwards please get in touch.
Contact Terry Harvey.

Software Engineer

Bucks. £9K-£12K

For this position the ideal candidate will have a background in electronics but more recent experience in software. Preferably PLM and assembler level micro development systems and the 8086 family of processors. You will work on control systems in the area of CNC and related products at a design and specification level.
Contact Terry Harvey.

Tech. Pubs. Manager

South-East to £14,000

A young, high-technology company has now reached a point where it needs to formalise its documentation procedures and is seeking to recruit a technical publications manager. The position requires a high degree of organisational skill, commercial awareness, technical expertise and above all, enthusiasm and a professional approach to documentation standards. An outstanding opportunity for career development.
Contact Brian Coates.

DEC Financial Programmers

Surrey/Herts. to £12,000

If you have a minimum of 2 years experience of programming commercial applications, preferably in BASIC+ or BASIC+2 on PDP11 under RSTS/E or VAX/VMS, then here is an opportunity to develop your career with a successful commercial software house. Our client is involved in all aspects of software production and installation and currently requires several programmers.
Contact Terry Harvey.

Product Support

N.W. Middx. to £13K + car

Our client has established an impressive lead in the provision of EFT systems for Tandem computers. These processing and switching systems are designed for users of all sizes. We would like to hear from well motivated people with experience of screen based applications. Candidates must have the appropriate appearance and manner for support work.
Contact Terry Harvey.

Comms. S/W Design

Herts. to £12,000

Develop your career and your existing communications software skills by joining a company already firmly established in this high growth sector of the computer industry. We are seeking software people with experience in developing 3270 compatible systems and as much experience as possible in X.25 and LAN products. Experience in 'C' or PASCAL using M68000 and/or TI9900 would be useful.
Contact Terry Harvey.

S/W Design & Development

Middx. £9.5K-£15K

Two vacancies exist in this development group responsible for the production of Advanced Signal Processing and CAD systems. Packages will include UNIX-compatible Operating Systems, LAN, compilers, high-speed interactive graphics and Videotext look-alike software, using PASCAL and BCPL on Special Processor and system architectures. Degree (or equivalent) and expertise in BCPL and disc-based O.S.s is essential.
Contact Brian Coates.

Micro Specialist

Middx. £9K-£12K

Your job will be to work with one other computing person in a very successful manufacturing company which is keen to increase the use of computer applications. Candidates will need to display experience in 'C' or other block structured languages, knowledge of CP/M and async. protocols useful. In short we are seeking a 'hands-on' expert.
Contact Terry Harvey.

Systems Executive

Herts. £10,000 + car

Approximately 3 years commercial applications including communications, office automation and COBOL are the prime requirements for this specialist support role. You will work in close conjunction with the sales and marketing department and be responsible for the installation and post-sales support of Distributed Data Processing and Office Automation software, together with some pre-sales work.
Contact Brian Coates.

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HR

SYSTEMS & PROGRAMMING

IBM MAINFRAME

JOB/MAIN PROGRAMMERS
CENTRAL
We are seeking for upwards of 8 months' experience of COBOL (either DOS or MVS) on any IBM mainframe. For this position a knowledge of CICS or PL/I is an advantage but full training in online techniques will be provided in the job. Ref: MB/CT.

PL/I and ASSEMBLER
ALL AREAS
We are seeking for 12 months' experience of PL/I and/or ASSEMBLER on any IBM mainframe. For this position a knowledge of CICS or PL/I is an advantage but full training in online techniques will be provided in the job. Ref: MB/CT.

IBM SYSTEMS PROGRAMMERS
(ALL LEVELS)
Vacancies exist in all areas of Systems Programming from Junior (with 12 months' experience) to Senior (with 12 months' experience). We are highly experienced in OS/VS, DOS/VS, VM, CICS, ASSEMBLER in a wide range of different environments from small and user to installing software products in a consultancy role in Banking where mortgage benefits apply. Ref: MB/CT.

IBM COBOL (SENIOR POSITIONS)
CITY
Progressive Financial concern are currently seeking a Senior Analyst and Programmer Team Leader for their development systems. These are highly responsible positions and require at least 2 years' experience of important development systems. Any exposure to ON-LINE DIB or mini computers in your career to date would be desirable but not essential. Excellent benefits package and opportunities to career progression. Ref: SR/CT.

IBM GSD

IBM SYSTEMS 34 (Retrain on 38)
ALL AREAS
We have several clients currently either running IBM System 38s or in the process of installing the new machines. Requirements vary from Junior Programmer to Senior Analyst/Programmer (with increasing responsibility with experience of RPG2 and on other System 3 or 34 Kit. Retrain to RPG3 in a new environment and gain excellent database and on-line experience. Ref: MB/CT.

RPG2
CENTRAL
Banking organisation running on IBM system 34 requires two Programmers to train into Analyst/Programmer roles on Banking Systems. No previous Banking experience is required as training will be provided on these applications. Upwards of 9 months' experience on the System 34 is required. Overseas travel and mortgage available. Ref: MB/CT.

OTHER MAINFRAMES

ICL PROGRAMMERS
ANALYST/PROGRAMMERS
BERKSHIRE
Opportunities exist for experienced ICL 2900 personnel to join this progressive installation. Essential experience is 2 years' + COBOL with DME, TP and IMS. Necessary education will be given in VME, DOS and Structured Techniques. Benefits include discounted holidays. Ref: MB/CT.

ICL PROGRAMMERS
S. LONDON
Good COBOL with VM2900 and IMS is required together with 3 years' overall experience to work in this progressive and established Software House. The environment is busy and interesting, and offers excellent career prospects. Ref: MB/CT.

CONTRACTS

PROGRAMMERS - ANALYST PROGRAMMERS FOR LONDON AND THE HOME COUNTIES

IMMEDIATE REQUIREMENTS
HP3000, COBOL, IMAG, SURROUGHS, B2000, ALGOL, TECH SUPPORT, IBM COBOL, VME, CICS, DLI, NCR VAX COBOL, BURROUGHS MPL, CICS, IBM SYSTEM 22, BASIC, HOMEWELL, L8 COBOL, IDS TDS

SEPTEMBER START
IBM COBOL, MVS, CICS, DLI, ICL PL/I, MVS, SHADOW/CICS, DEC VAX/DP11 COBOL/BASIC, ICL MVS COBOL, IBM SYSTEM 38, RPG3

For full information on these and other contracts call Bruce Harrington.



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Office automation/L.A.N. Designers

for a growing innovative company (seven vacancies)

Central London Salary ranges to £15,000

The recent announcement of the MicroNode and the huge response its editorial coverage received means Xionics is set to expand. The designers we seek will be ideas men/women possessing the skills to implement their ideas through to pre-production.

You will need to be experienced in one or more of the following areas:

Multi function workstation software
Continuous improvement and the will to keep one step ahead means we need people with expertise in: word processing, graphics, printer drivers, emulation, user friendly interfaces, multi-user operating systems.

Network and communication systems
New networks and new enhancements require high calibre designers versed in: L.A.N.s, fibre

optics, network interworking, layered communications protocols.

Test software
To ensure the successful implementation of our advanced network systems, designers/programmers are sought to provide tests and diagnostics software for Xionics' multiprocessor systems.

Engineering
Highly skilled hardware designers/engineers experienced in microprocessors, multiprocessor architectures, communications, high speed digital networks/circuits will be able to contribute to planned products ranging from high speed L.A.N.s to high definition colour workstations.

Xionics future success will depend on the dedication and skill of our development staff.

To join the professional and self-motivated people who make up our development teams, you will need to be able to work unsupervised in a team environment, have communication skills, commitment and energy.

If you feel you can contribute to our continued growth, please contact in the first instance George Shaw on 01-549 9236 (24 hour answering service)

XIONICS LTD are a subsidiary of Smiths Industries plc.

Sloangate Recruitment Advertising Limited
Dominic House, 171-177 London Road, Kingston-upon-Thames,
Surrey KT2 6RA. Telephone 01-549 9236

XIONICS Sloangate

Recruitment Advertising

COMPUTER PROGRAMMERS

The Equitable Life, a long established and expanding organisation, has vacancies for two Programmers who will join them in their modern air-conditioned offices close to the centre of Aylesbury.

Applicants, aged 20-26, should have at least 1½ years' commercial programming experience, using the COBOL language in an ICL environment.

The Society offers competitive salaries plus an annual bonus. Other benefits include a non-contributory pension scheme, 20 days holiday a year, a staff restaurant providing free lunches, and the opportunity in the future to be considered for a staff house purchase loan at concessionary rates.

Please write or telephone, indicating briefly how you meet our requirements, to:-

Mrs Carol Bird, Staff Assistant, The Equitable Life Assurance Society, Watton Street, Aylesbury, Bucks, HP21 7QW. Telephone: Aylesbury (0299) 33100.

The Equitable Life

Analyst/Programmer

Frequent North European Travel

c.£13,000 p.a.

Glaxo is a multi-national pharmaceutical group whose business is expanding rapidly. In response to increasing demand for better management information, both internally and with respect to the parent company, our North European subsidiaries are expanding their computer facilities and systems. This programme of expansion is being co-ordinated through our North European Office located at Greenford, Middlesex.

We are now looking for an experienced Analyst/Programmer who can work with and advise the companies concerned on their development programmes.

You will be educated to degree level and have good technical knowledge and experience of

Hewlett Packard equipment. Although based at Greenford, frequent visits to the North European countries, sometimes at short notice, will be required. You will be expected to show understanding and initiative in your dealings with staff of the subsidiary companies.

Starting salary, including guaranteed bonus and Outer London Allowance, will be in the region of £13,000 per annum. Excellent benefits include non-contributory pension, 25 days' holiday and season ticket loan scheme.

For an application form please write to: Miss P.A. Sundry, Senior Personnel Officer, Glaxo Holdings p.l.c., Clarges House, 6-12 Clarges Street, London W1Y 8DH, or telephone 01-493 4080 ext. 300.

Glaxo Holdings p.l.c.

SOUTH WEST UNIVERSITIES REGIONAL COMPUTER CENTRE

UNIVERSITY OF BATH

ADVANCED NETWORKING AND SYSTEMS

SWUCC provides computing services to six universities in the South West via one of the first X.25 based span networks. Involving ICL, DEC, Honeywell, DEC and Prime equipment and 81's PACE Switch-Stream. The centre is equipped with a dual ICL 2960, DEC 4000 machines, PACE and UNIDATA micro equipment. Present developments include a joint project with ICL to develop networking software for VME for the UK academic community. Applications are sought from recent graduates or potential team leaders to work on this project. Experience of wide or local area networking or operating systems is essential. VME or OS/VS is desirable especially for the senior post. The applicant will be based on the site £11,100-£14,125 or £8,910-£11,615. Further details and application forms from the (Personnel) Officer, University of Bath, Bath BA1 1AT. Closing date: 28th July, 1983.

HAMPSHIRE COUNTY COUNCIL

SOUTHAMPTON COLLEGE OF HIGHER EDUCATION

SHIFT LEADER/TELEPHONE LIBRARIAN

(Post 100)
£4,945-£5,875-£6,325 (plus shift allowance of 10%)
The Computer Centre operates a VAX 11/780 microcomputer and an extensive terminal network. Two alternating shifts are in operation. The ideal applicant will be self-motivated, able to play an active role in the development of the Computer Centre. A knowledge of operating systems, an educational computing background would be an advantage as would a good knowledge of business management. The ideal candidate is energetic, motivated, and able to work and lead a team. Further information and application forms available from: The Computer Centre, Southampton College of Higher Education, Southampton, Hampshire, SO9 4N. Closing date: 28th July 1983.

SOUTHAMPTON AND SOUTH WEST HAMPSHIRE HEALTH DISTRICT

Western Regional Medical Physics Department

Southampton General Hospital

Nuclear Medicine Physics

Basic Grade Physicist
Required to be responsible for the maintenance and efficient routine use of imaging and computer equipment in the Western Regional Department of Nuclear Medicine and to provide development support for the activities of the Nuclear Medicine Physics Group. Applicants should be qualified to degree standard and have suitable or related electronics, computer, or physics background. Suitable candidates will be interested in computing and for a higher degree and training in suitable for relevant positions. For further information or an application form, please contact Dr J. R. Bennett, Medical Physics Department, Southampton General Hospital, Telephone 0703 77244, extension 77244, or write to: The Physicist, Southampton General Hospital, Southampton, Hampshire, SO9 4N. Closing date: 28th July 1983.

POLYTECHNIC OF THE SOUTH BANK

BOROUGH ROAD, LONDON SE1 8AA

DEPARTMENT OF MATHEMATICAL SCIENCES AND COMPUTING

Temporary Senior Lecturer/ Lecturer, Grade II in Computing
(Ref: X.18) (The advertisement - 2 posts)

Applicants are invited from suitably qualified or experienced candidates to teach on a part-time basis in the Department of Mathematical Sciences and Computing. The post is for one year from 1st September 1983 with the possibility of extension. Salary will be in the range: £11,822 to £14,262 p.a. (Senior Lecturer) £8,164 to £11,257 p.a. (Lecturer, Grade II). Salary will be negotiable on qualifications and experience. It is to be held on a part-time basis with a salary and an immediate appointment. Further details of the Department and its activities together with an application form may be obtained from The Building Office, Tel: 01-429 8888 Ext. 725.



Aluminium Bahrain (ALBA) is the major aluminium producer in the Arabian Gulf. Established in 1969, the company now employs some 2000 local and expatriate staff. Current major expansion creates a rewarding opportunity for a:

Senior Programmer

COBOL

Benefits package £20,900 net of tax† BAHRAIN

to make a significant contribution within a 3 year contract to the company's established Central Computer Department. Set up in 1974, and now employing some 30 staff, the department is involved in the development of on-line systems on an IBM 4331.

Candidates should have a minimum of 3 years' COBOL experience plus a knowledge of VSAM, ICCP/CMS, CICS or MANTIS.

Salary, at present totally tax-free and freely transferable, will be negotiable in five-figure range.

In addition, substantial benefits include: ★ 32 working days' annual leave plus 12 days of public holidays ★ rent free furnished air-conditioned accommodation ★ full recruitment and repatriation expenses ★ annual return air fares for employee and family ★ assisted education for children ★ free medical care and life assurance.

† Benefits calculated at current exchange rates.

Bahrain is a stable country with a liberal government. English is widely spoken and the company is experienced in the rapid and smooth entry of expatriate staff into the local community. Extensive sports and social facilities exist.

Please write with full details to: K.W. Rowe, Alba Smelter Services Ltd., Standbrook House, 2-5 Old Bond Street, London W1X 3TB.

DATABASE DESIGNERS

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Please contact: TANGENT COMPUTER SERVICES LTD.
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SUCCESS IN THE SOFTWARE WORLD

Systems Professionals

Looking for your first career move?

Your first move is probably the most difficult one you'll ever make. You can't afford a mistake, but how do you know you're choosing the right company?

We are convinced we've found them. Our client believes people are their strength and their commitment to their people is wholehearted. In their purpose-built development centre, you'll find both the tools and the backing to develop your skills to their maximum potential—and you'll learn those new skills you need to become involved in projects at the very forefront of technology.

Because of their policy of continued expansion our clients are now seeking dedicated professionals in the following areas:

- Office communication systems • Data communications
- Local and wide area networks • Software tools

Applicants should have a degree in computer science, electronic engineering, or a similar discipline, and a minimum of two years' development experience in real-time applications.

For further information about these positions please contact Edith Watson at Computer Search and Selection, Hamilton House, Marlowes, Hemel Hempstead, Herts HP1 1BB. Tel: Hemel Hempstead (0442) 40761.

Computer Search & Selection

Systems Programmers and Consultants

For the development of systems tools and utilities, including the provision of a portable toolset based on the UNIX operating system. IBM or VAX background preferred, and a knowledge of 'C' or PL/M would be an advantage.

Software Engineers

To become part of a team currently developing office communications and networking software for Z80 based microcomputers.

PL/1 Programmers

To customise generic systems software for PABX applications. Knowledge of MVS essential. Experience of IMS or SP/2 would be an advantage.

Team Leader, Engineering Development

The successful applicant will be responsible for a team of up to 6 hardware engineers. You should have a minimum of 5 years' development experience and a sound appreciation of both hardware and software, particularly in INTEL or Z80 based systems.

Hardware Engineers

For a variety of applications up to and including the prototyping of new products. Some software knowledge would be an advantage.

REUTERS

INTEL 8086/186
RMX
PL/M
MULTI
PROCESSOR

DEVELOPMENT
OF A NEW
INTERNATIONAL
NETWORK

VAX 11/780
VMS
PASCAL
DECNET

£10,500-£13,000 +

Opportunities of rare scope and challenge now exist within one of the most profitable and fast growing companies in the UK.

As part of our programme to remain the world's leading news organisation and supplier of electronic information services to the media and financial community we are expanding our technical development group in London.

We have one of the largest private communications networks in the world which we are now in the process of replacing. Satellites, LANs, microwaves and advanced networking all play major roles in our approach to developing our new worldwide communications facilities and databases.

Reuters' technical staff not only deal with current but also future technologies and constant attention to development is a key ingredient in Reuters' success. We are one of the largest OEM customers of DEC in the world and at the forefront of the application of

Intel hardware to new terminals and systems under development.

Our requirement is for programming staff to join small highly skilled project teams and contribute to the design and development of Intel and DEC based real time systems to challenging timescales, using excellent development facilities.

Candidates will have had one or more years experience of programming in high level real time languages such as PL/M/86 or PASCAL under the RMX/86 or VMS operating systems. Experience with multiprocessor MULTIBUS systems, MMX, Communications protocols, LANs, DECNET or database systems would be an advantage.

For a confidential discussion regarding these opportunities please telephone Miles Richards on 01-938 1804 (24 hrs) or 01-847 2385 evenings 7 pm - 9 pm.

IPP Information Processing People
20 Kensington Church Street, London W8 4EP
Telephone 01-938 1804 Telex 22861

(4811)

MANAGEMENT & EXECUTIVE SELECTION

telephone 01-637 9611

COBOL PROGRAMMERS & ANALYST/PROGRAMMERS

CENTRAL LONDON £7,500-£11,000
Several outstanding opportunities exist within this rapidly expanding international organisation with a £100 million turnover. The data processing department houses up-to-the-minute mini computer technology with a wide variety of modern peripheral equipment. In order to meet growing demands our client is seeking to recruit both Programmers and Analyst/Programmers to progress their career in a fast moving, real-time environment. If you can offer 18 months' COBOL expertise and want to find out more about these exciting positions contact DP Selection Services quoting ref A1.

COMMERCIAL SYSTEMS DEVELOPMENT

SYSTEMS ANALYSTS SALARY £11,000-£14,000
Our client, a major UK Company based in LONDON, is seeking to recruit experienced Systems Analysts to work on their IBM mainframe. Ideally candidates will be able to demonstrate experience of systems analysts from feasibility through to implementation in a commercial environment. Some knowledge of interactive and/or database systems would be advantageous although not essential. The opportunity to work on new development projects in a dynamic environment is combined with excellent career potential and salary package. Contact DP Selection Services quoting ref A2.

JUNIOR PROGRAMMERS - AN OPPORTUNITY TO MOVE TO IBM ESSEX

Can you offer at least one years' COBOL or RPG programming experience on any mainframe? Our client is seeking to recruit a number of Programmers keen to progress their career in an IBM environment using IBM 4341 DOS/VSE for their installation based in Essex. An excellent range of company benefits are also available. Please write or telephone quoting ref A3.

These are just some of the career opportunities that we are currently assisting our clients to fill. We would be pleased to talk to you regarding these and many other vacancies that we are currently aware of. Telephone one of our consultants to discuss your particular requirement and how DP Selection can help you.

dp SELECTION SERVICES 7 Swallow Street, London W1R 7HD
"We look forward to hearing from you."
A member of the DP Support Services Group

COBOL PROGRAMMERS & ANALYST/PROGRAMMERS

ESSEX £9,000-£11,000
Our client's systems development team is constantly expanding in order to meet project demands from a variety of systems in an interactive database environment. Working upon very powerful minis linked to a mainframe, candidates should possess a minimum of two years' mainframe COBOL or RPGII. You will be given the opportunity to join a friendly team and liaise with the Users in this established and rapidly expanding company. Please write or telephone quoting ref A4.

PL/1 DEVELOPMENTS ANALYST/PROGRAMMERS & PROGRAMMERS

CENTRAL & WEST LONDON £9-£13,000
New PL/1 based projects are in the early stages of development at our client's sites in Central and West London. These projects include the use of CICS and DATABASE software and education and training will be provided on these techniques where necessary. PROGRAMMERS will be able to offer around two years' experience and will be keen to progress towards analysis. ANALYST/PROGRAMMERS will have had some exposure to design and specification work and will enjoy working closely with Users. To learn more about these developments telephone or write now quoting ref A5.

IMS PROJECTS - SOUTH COAST ANALYSTS AND SENIOR PROGRAMMERS

ESSEX £9-£12,000
Our client is currently in the early phases of development of major new IMS based systems. New project requirements have led to an increase in staff requirements for ANALYSTS and SENIOR PROGRAMMERS. ANALYSTS will need to offer sound commercial experience including some database and on-line systems. SENIOR PROGRAMMERS will need to offer sound IBM COBOL together with some data-base knowledge and can look forward to specifying and developing new IMS batch and real-time programs. Telephone or write now for further information quoting ref A6.

Ambitious Sales Professionals looking for the ideal

Blue Chip Opportunity



Our client the Nissei Sangyo Company, a trading company within the Hitachi Group, has fully established itself in the market place by offering outstanding products. They are a major supplier of peripherals in the U.K. supported by CAREER and COMPANY DEDICATED professionals.

Nissei Sangyo has created two opportunities for sales executives to be responsible for the marketing of new and exciting products. The company wishes to achieve a significant market share within Europe in the next three years by introducing into their existing product line, slim line floppy disc drives and an extensive range of printers. Successful candidates will be aged 25-35, educated to degree or HND standard and with a proven track record in technical sales to major OEM accounts.

Based at their modern prestigious headquarters in Ealing you can expect a salary of around £15,000 dependant upon qualifications and experience plus a 10% annual bonus and a luxury 2.3 litre car. All the usual company benefits are included.

For an early interview, please contact Kathy Sinclair on 01-637 9611 or send your C.V. to Management and Executive Selection, Suite 201/208, Albany House, 324 Regent Street, London W1R 5AA.

NISSEI SANGYO LTD
a member of the HITACHI GROUP
Suite 201/6 Albany House 324 Regent Street London W1R 5AA 01-637 9611

MANAGEMENT & EXECUTIVE SELECTION

CTRComputer
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For over a century Akroyd & Smithers has been one of the most innovative names in City businesses. Commitment to growth and diversification has established the company's strong reputation in the competitive and highly specialised field of stockjobbing, and they now deal in the majority of financial markets. Within their exciting business development plans, international exposure has taken them to North America, Europe and the Far East and they are now making further impact by focusing their experience on the new Financial Futures Market.

This outlook is reflected in their approach to DP. There is one of the most progressive, attractive ICL environments with major enhancements scheduled; a place where the ambitious and talented professional has an integral and active role to play.

The Future Horizon

Marking an exciting DP turning point

- * Twin ICL 2955s
- * X-25 Packet Switching
- * DRS/Local Area Networks

- * Conversion from DME to VME
- * Database
- * Real Time Processing

SENIOR SYSTEMS ANALYST

£12K-£15K + Profit Sharing

Top flight skills, a strong programming and business analysis background, specialising in on-line implementation in a financial environment, need to be complemented by the personality and communicative ability to present and promote DP facilities to users.

PROGRAMMERS

c£10K (very negotiable) + Profit Sharing

An ICL Cobol Programming background is vital and VME, IDMS, DDS and TPMS experience extremely advantageous. Personal qualities and management ability will identify you for a more senior role.

Project scope; career progression; technical stimulation; profit sharing; subsidised staff restaurant and season ticket loans are among the features of this excellent working environment.

They'll turn your DP career to a future with potential. To discuss these opportunities in more detail call Jane Emmanuel on 01-734 9723 or 01-467 2828 evenings and weekends.

TRUMP HOUSE • 189 REGENT STREET • LONDON W1R 7WD 01-734 9723 • As advanced as the industry we serve

Basic Programmers

Here's a big plus to your future!

£8-12,000 + benefits

Cambridgeshire

Our Client is a very successful, highly respected Systems House and one of a specially selected number of DEC distributors in the UK. Such is our Client's reputation of quality and service that a sales force is not necessary, with the bulk of the Company's business coming in via 'word of mouth' - and in today's market that stands for a lot.

Since its formation some five years ago, the Company has been expanded in a measured and logical fashion and today, offers its employees unequalled security and high financial rewards.

In order to cope with current and future workloads, our Client seeks to recruit a number of Programmers with sound experience of DEC BASIC to become involved in the development of a wide range of systems on behalf of Clients, using BASIC-II v.2 and the RMS file handler on a powerful, dual PDP 11/44 configuration under RSTS/E.

In addition to sound technical ability, our Client seeks well presented and business like individuals who are prepared to make an above average contribution to the Company's growth. In return, they can expect above average rewards, a secure and progressive future, and front line involvement within a prestigious client base.

If you have good BASIC programming skills and prefer to work as part of a highly professional and successful Company, we should talk. Contact **Carl Ford** on **021-236 3761** (24 hour answering service) or at home on **0582 66595** (Evenings and Weekends until 9.00 p.m.) for further details of these superb opportunities.

Our Client offers excellent terms and conditions of employment which include full relocation assistance when required.

Technical Sales & Management Appointments

CTR

Specialist Computer Recruitment Ltd

SOUTH
James Hobbs, 40 James Street
London W1M 5HS
01-538 8071 (4 lines)

MIDLANDS & INTERNATIONAL
35-37 Great Charles Street
Quinton, Birmingham B3 1JY
021-236 3761

NORTH
International House, 84 Deansgate
Manchester M2 2EN
061-236 3761

BRUSSELS
Avenue Louise 327
Box 1050 Brussels
018 222-440 7181/71

HOLLAND
Willemsdijkweg 92
1071 H M Amsterdam
010 5120-7004/7

ANALYSTS/PROGRAMMERS

Are you paying too high a price for ambition?

In order to stretch their intellects and reach for new skills, many Analysts and Programmers accept a shabby sacrifice... Hours spent commuting, a small fortune spent on fares and, inevitably, less time spent enjoying the lifestyle they work so very hard to achieve.

Honestly, what is the point of investing so much effort and energy if you never profit from it? While you're thinking about that question, we'd like to suggest an answer that doesn't involve personal sacrifice. A perfect compromise that guarantees you scope, freedom to innovate plus a lifestyle that's as full and rich as the challenge. It's called British Telecom.

Hardware not soft sell...
Companies love to talk about their state-of-art hardware but, frankly, talk is cheap. People want facts, not fiction. So, here's the state-of-play at British Telecom... Twenty-eight ICL 2900's... thirty IBM 4331's... three IBM 4341's... one IBM 3081, 3033 and 3083... one Burroughs 6811 and 6930 plus practically two thousand SBC's. Impressive, isn't it? It proves we're committed to innovation and to making our investment pay dividends in terms of advanced applications. Critical decisions on expenditure.

capitalization, investment, budget planning, credit controls and consumer demand patterns rest on our ability to exploit the full potential of this arsenal.

That's why we're in the market for genuine innovators. The Price we pay for Ingenuity... Creativity is a scarce commodity. That's why we're offering up to \$11,000 for Analysts/Programmers and as much as \$13,000 to Senior Analysts/Programmers. Exceptional candidates can command even more.

However the beauty of British Telecom is that you don't have to slog into some grimy London office to realise your ambitions. We're bringing the state-of-art to you... We have Telephone Areas throughout the UK and virtually all of them need that special spark of software genius. In other words, we're setting you free. We're

offering you the perfect compromise of total, real-time systems involvement with an altogether richer lifestyle.

That's our unique proposition to everyone with at least 12 months' experience of isolating and solving complex systems problems. Professionals who are fluent in COBOL, PL1 and BASIC. Ideally, young men and women with more than a nodding acquaintance with IBM 4331 and/or ICL 2900 systems.

If you have the vital qualities and qualifications, ring us now. We're planning special OPEN EVENINGS when you can walk in and get together with our senior systems people over a glass or two of wine. It's a unique opportunity to meet the team that's setting the pace in applications development... so make a date with British Telecom. Ring Michelle Priestley on Freephone 2593, 24 hour service.

Our Nationwide search for Systems Innovators starts here - From 5.30pm

London Tues. 19th July	London Wed. 20th July	Cardiff Thurs. 21st July
Drake & Essex Suite	Britannia Suite	Duchess Suite
The Strand Palace Hotel	Drury Lane Hotel	Park Hotel, Park Place
Strand WC2	Drury Lane WC2	Cardiff CF1 3UD

If you really can't make an Open Evening, but would like to know more, get in touch now. (4591)

Data Processing

British Telecom

Telephone: Freephone 2593 (24hr service)

intel delivers
the future

SYSTEMS SOFTWARE SUPPORT WITH THE INDUSTRY LEADER

Intel, the technology leader in the microcomputer industry, is establishing a European technical support centre for its leading systems products.

Therefore we are seeking highly experienced systems software people in the following areas:

Database systems support
To support the mainframe database systems supplied by Intel, we need an experienced database specialist. You will probably be working on a large IBM site under MVS, DOS, VM - CMS or similar mainframe systems. If you also have a knowledge of distributed database applications on microcomputers and the associated communication expertise, it would be highly desirable.

Real Time/TP operating systems support
To support the sophisticated IRMX operating system, we need specialists in the real time applications on microcomputers both commercially and technically. IRMX experience would be desirable but not essential if an equivalent expertise is present. Experience of TP applications would also be useful.

XENIX/UNIX support specialist
To support the XENIX/UNIX operating system on Intel microcomputers and the associated office automation and relational database products, we require an experienced specialist of this type. You will probably have worked on XENIX/UNIX, preferably on Intel systems, and it is highly desirable that the application areas were in office automation products.

Candidates for any of the above posts are unlikely to be under 26 years of age.

Each of these positions offers an outstanding opportunity to join an industry leader at an exciting stage of its growth: career progression is limited only by individual performance and the compensation package reflects the importance of the posts.

Please telephone for an application form or send a CV to Ray Withey, Personnel Manager, Intel Corporation (UK) Ltd, Pipers Way, Swindon, Wiltshire. Tel: (0793) 488388.

These vacancies are open to male and female applicants. (4591)

If systems development is your strength and IBM System 38 your experience, you're our kind of Programmer

c.£9,000

Epsom, Surrey

Durst UK, based in Epsom, Surrey, part of an international group designing, manufacturing and marketing photographic processing, printing and enlarging equipment throughout the world.

The company's total commitment to Data Processing extends to many internal functions and is highlighted by the development of a totally interactive system, advanced process control, as well as office automation, based on the IBM System 38 model 7 using RPG/III. It is interesting to record that the company's development of computer applications has made the installation an IBM reference site.

For young computer professionals looking to make their mark in a small team environment and develop a career in systems development, this is an ideal opportunity to become involved in new projects. This will involve working closely with users and management teams identifying their needs and developing and implementing new systems.

The need is for a graduate calibre Programmer ideally aged early - mid 20's, who has 6-8 months' experience of System 38 and good communicative and interpersonal skills. You should also be hard working, a good team member and ambitious to develop into a broader role involving systems analysis.

We'll offer a salary negotiable up to £9,000 pa plus the benefits to be expected from a successful international company.

If you have the ability and enthusiasm to work in a career stretching role where your knowledge and talents are constantly challenged, we'd like to hear from you.

Please write giving details of your career to date to: J. D. O'Mahony, Personnel Manager, DURST (UK) LIMITED, Longmead Industrial Estate, Folstead Road, Epsom, Surrey KT19 7AR. Tel: Epsom 26262

Durst
PHOTOGRAPHIC EQUIPMENT

Senior Analyst/Programmers Holland
To join an established team in The Netherlands developing a dynamic real-time business data-base and communications system for an international oil and shipping concern. A sound knowledge of IBM System 38 is required together with PPS III. Due to the continued expansion of the data processing facilities to incorporate the total world-wide organisation this will enable successful candidates to become involved with a major communications network from its inception. Ref: 01/05

Software Engineers/Project Leaders Herts
As one of the UK's leading communication equipment manufacturers our client is seeking to enhance its Software Tools Development team. Although mainframe based these tools are intended for use by teams working on new micro-computer development systems. The software tools section are responsible for the design, development and support to both in-house and client users. Successful applicants will have a minimum of 3 years real-time or communications experience, proven involvement in software tools development and/or support preferably with knowledge of UNIX and 'C'. Excellent salaries plus benefits package is offered. Ref: 01/06

Telecomms Development Essex
Engineers, from Graduate to Senior levels, with experience in both hardware and software aspects of the telecommunications industry are required to adapt and modify existing equipment to conform to British Telecom standards and overseas customer requirements. Full large company benefits plus relocation, where applicable, is available to successful applicants. Ref: 01/07

Hardware Development Engineers Herts
To develop hardware for a new range of mini- and micro-based hardware for Electronic Mail, Office Automation, Networking and Telecommunications systems. Good design ability is a necessity with a willingness to work in a team environment. Full training will be given where required. Previous development experience on ZILOG, INTEL or MOTOROLA hardware is advantageous plus the ability to understand the software requirements generated by the hardware development. The company's rapid growth means excellent promotion prospects. The number and variance of current and new projects together with the most up-to-date laboratory facilities make this an opportunity not to be missed. Ref: 01/08

Lecturers London
To join an organisation specialising in the presentation of Programming and Systems Analysis courses to DP personnel. Courses are mainly aimed at the commercial skills i.e. COBOL programming and the design of sophisticated business systems. Candidates should have a sound programming and/or analysis background with the desire to instruct. Full training in the preparation and presentation of courses will be given as well as the opportunity to be trained in new languages, techniques, etc. These positions offer both challenge and reward. Ref: 01/09

Technical Authors UK & Overseas
Hardware and Software authors for a large number of clients on projects covering the following topics:
• Operating Systems/conversion manuals
• User manuals for: Intelligent Terminals; UNIX & 'C' - microprocessor development systems; commercial systems
• DEC BASIC programming manuals
• Telecommunications manuals
• Systems Descriptions - IBM System 38
• Process Control - sales and technical documentation. Ref: 01/10

Software Engineers Beds
To join a team developing new INTEL 8086 based machine tool control systems utilising a common core of software. Several projects are currently envisaged - some still in the early design stage. Applicants should have 2-3 years Process Control/Real-Time experience using INTEL and PL/M. A knowledge of ASSEMBLER would also be a distinct advantage. A realistic salary and benefits package together with excellent future prospects in a challenging software development environment makes this a first class opportunity. Ref: 01/11

Analysts & Programmers Surrey
The computer services division of an international group have a number of vacancies for Analysts and Programmers with experience of commercial applications on PDP 11 and/or VAX machines. These positions will involve customer liaison, implementation of new systems and enhancement to their existing ones. Successful applicants will be professional, self-motivating, enthusiastic towards their work, effective communicators and smart. Ideally you will have 3 years relevant experience using BASIC, BASIC+ etc. and salaries will be based on this. Ref: 01/12

Take this opportunity to discuss these and other requirements by phoning Hitchin (0462) 87141 or write to:

Marketing & Recruitment Division
Industrial Artists Limited
21 Bancroft, Hitchin
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IBM EXPERIENCE

Progs & Anal/Progs	COBOL CICS DL/1 Home Counties	Immediate starts
Progs & Anal/Progs	PL/1 MVS Home Counties & West Country	Immediate starts
Systems Programmer	MVS Capacity Planning Central London	Immediate start
Technical Authors	Home Counties	August start
Programmer	System 34 DMAS Surrey	Immediate start
Programmers	COBOL DL/1 Easytrieve Central London	Immediate starts
Anal/Progs	COBOL IMS DB/DC Home Counties	Immediate starts
Progs & Anal/Progs	COBOL IMS DC Home Counties	August starts
Systems Programmer	CICS DL/1 South Coast	August start
Anal/Prog	Unipay South Coast	Immediate start
Programmer	Assembler MVS COBOL City	Immediate start

OTHER EXPERIENCE

Programmers	UNIX & 'C' All Areas	Immediate/September starts
All levels	ICL ME29 COBOL IDMS All areas	July/August starts
All levels	ICL 2800 VME/B TPMS IDMS All areas	Immediate starts
Programmers	ICL System 25 Assembler Home Counties	Immediate starts
Systems Designer	Prime North	Immediate start
Progs & Anal/Progs	VAX VMS Basic Home Counties	Immediate starts
All levels	VAX COBOL Home Counties	Immediate starts
Systems Engineers	PDP or VAX Coral South Coast	Immediate starts
Prog/Designers	Z80 Assembler Graphics Home Counties	Immediate

OVERSEAS CONTRACTS

All levels	Videotext experience Australia	Ongoing requirement
Anal/Prog.	Arbat: Aims America	August Start

SPAN
COMPUTER CONTRACTS
A SPAN GROUP COMPANY

43-44 GREAT WINDMILL STREET,
LONDON W1V 7PA
TELEPHONE 01-734 7394 24 HOUR ANSWERPHONE

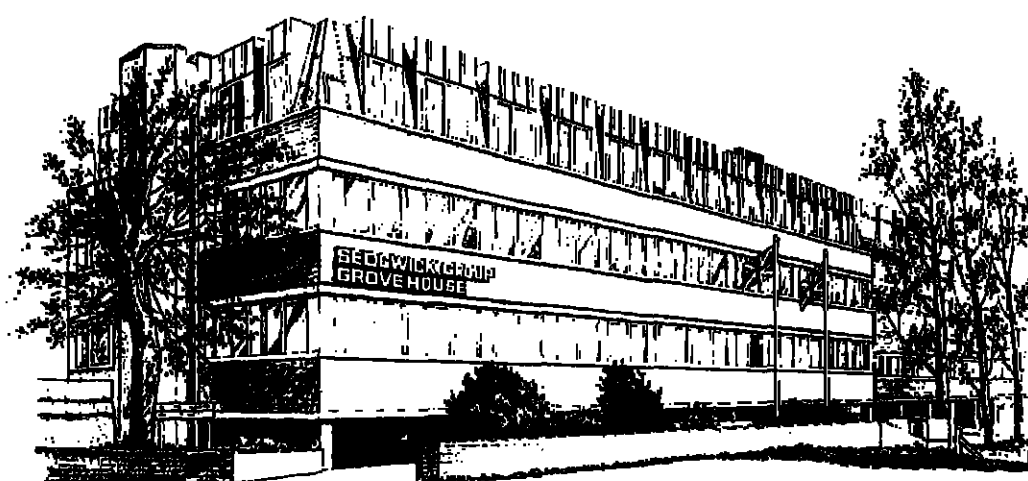


Sedgwick

Sedgwick are justifiably proud of the location of their offices in Witham, right in the heart of the Essex countryside. Apart from fresh air and open space, the area offers good low-cost housing, plus excellent road and rail links with London. The Witham complex offers a spacious and carefully planned working environment, utilising the latest office technology. In addition to this there are free restaurant facilities, free life assurance, excellent pension scheme and an active sports and social club.

YOUR CHANCE TO...

Sedgwick are the leading UK multinational broking group operating worldwide, handling insurance business originating from 108 countries. Some of the world's largest and most complex projects in aerospace, oil exploration, nuclear energy and construction, involving expenditure running into billions, rely upon advice and service from a firm like Sedgwick.



Following breakthroughs in the field of integrated text and data processing, utilising a range of IBM 8100 hardware, a significant upgrade and expansion in hardware, software and information processing techniques is now taking place. The current line-up of twin IBM 3032's and 4341's will soon be augmented by the arrival of their first IBM 3083. Large on-line database developments are already underway. To maintain this impressive record, the company offers excellent training facilities, so you too can become part of Sedgwick's success.

SYSTEMS ANALYSTS AT ALL LEVELS c£11k-14k

You will analyse user requirements, design computer based solutions, and produce specifications to detailed design level. You will have from 2-4 years analysis experience, a programming background and ideally a knowledge of T/P systems. Experience of DL/1, CICS or UFO would also be advantageous.

PROGRAMMERS AT ALL LEVELS c£8k-12k

You will write, amend and maintain programs from program specifications and code and test programs as necessary. Lead programmers are also required to design, write and amend programs and supervise a small team. Your experience includes one or more of the following: Assembler, COBOL, CICS, UFO, T/P systems or DL/1 and also IBM mainframe or 8100 hardware.

ANALYST/PROGRAMMERS c£10k

You will work with users to define requirements and assist in development with high level/interactive programming languages. Necessary experience includes COBOL programming and the ability to communicate at all levels. Knowledge of SAS or CA-EARL would also be advantageous.

DATABASE ADMINISTRATOR c£15k

A new area of responsibility is to be created to assist with the introduction of major new database systems using CICS-DL/1, within the technical support group. This challenging role will include the audit of data analysis, database and transaction design and the management of Data Dictionary facilities. The successful applicant will be expected to bring initiative to the future development of the department. Experience ideally includes systems analysis in a CICS-DL/1 or IMS environment, coupled with an interest in the technical aspects of database systems plus the ability to operate at a senior level.

To register your interest in this challenging position or simply to obtain more information, please telephone Barbara Basquill on 01-734 7394 (office hours), or on 0787-237116 (evenings and weekends) or send your C.V. to the address below.

...JOIN THE SUCCESS.

WARWICK WOODWARD
A SPAN GROUP COMPANY

43-44 GREAT WINDMILL STREET, LONDON W1V 7PA
TELEPHONE: 01-734 7394 24 HOUR ANSWERPHONE

Please send me more information on Sedgwick

Name: _____

Address: _____

Telephone: _____

Present Position: _____





Sedgwick

MANAGEMENT AT ITS BEST

c.£16,500

Due to internal promotion, Sedgwick now wish to recruit a **Project Manager** to oversee the running of 2 large teams in the development and maintenance of systems within specific areas of the business cycle.

With approximately 20 development staff (including Project Leaders) reporting to you, your motivational, managerial and organisational skills will be utilised to the full. Your responsibilities will also include recruitment of further staff, appraisals and salary reviews, as appropriate, and the preparation and control of projects with long and short term development plans. There will also be a substantial amount of senior-level user liaison.

The seniority of this position dictates that you will have spent at least 8 years in D.P., 2 of which will have been in a similar managerial position running multiple projects. You will also have experience in the use of database techniques or in distributed data processing plus the ability to communicate at all levels.

Sedgwick are the leading UK multinational broking group operating worldwide, handling insurance business originating from 108 countries. Some of the world's largest and most complex projects in aerospace, oil exploration, nuclear energy and construction, involving expenditure running into billions, rely upon advice and service from a firm like Sedgwick.

Following breakthroughs in the field of integrated text and data processing, utilising a range of IBM 8100 hardware, a significant upgrade and expansion in hardware, software and information processing techniques is now taking place. The current line-up of twin IBM 3032's and 4341's will soon be augmented by the arrival of their first IBM 3083. Large on-line database developments are already underway.

The Sedgwick D.P. Department is based in Witham, in the heart of the Essex countryside, which offers good low-cost housing, plus excellent road and rail links with London. The benefits package includes: free life assurance, free staff restaurant, contributory pension, sports and social club, etc.

To register your interest in this challenging position or simply to obtain more information, please telephone Barbara Basquill on 01-734 7394 (office hours), or on 0787-237116 (evenings and weekends) or send your C.V. to the address below.

WARWICK WOODWARD  A SPAN GROUP COMPANY

43-44 GREAT WINDMILL STREET, LONDON W1V 7PA
TELEPHONE: 01-734 7394 24 HOUR ANSWERPHONE

ANALYSTS·PROGRAMMERS TECHNICAL SPECIALISTS

Honeywell is a name associated with excellence — both in our product range and the success and professionalism of our multinational operation.

Our continued development of sophisticated systems to meet the user needs of the future places exacting and exciting demands on all areas of our business. That's why we have a major commitment to developing superior, advanced systems within our Management Information Services Operation at Brentford, providing business systems and services within Honeywell.

Our investment in new technology creates exciting opportunities for DP professionals to join us and enjoy the variety and rewards of working with one of the world's leading computer manufacturers.

Business Systems Analysts

To be responsible for preparing feasibility studies that incorporate financial analysis and justification, together with the development of detailed design specifications for management approval. You will also have direct involvement in actual systems implementation and will play a major role in preparing educational packages and training users within Honeywell.

The need is for senior level professionals with at least 5 years' experience of commercial systems within a large company environment and an in-depth understanding of the business practices involved in a Sales/Marketing/

Financial operation. Ideally degree qualified, you should have a sound working knowledge of Database, Transaction processing and time-sharing on mainframe, mini or micro-computers.

Programmer/Analysts

With an end-user orientation, having a minimum of 2 years' experience in programming COBOL, Basic, as well as utilisation of end-user facilities such as query languages and office automation systems. The ability to communicate and work well with users is essential to job success. Areas of concentration will be in Marketing, Distribution, Personnel and Finance support systems. In-depth working knowledge of Honeywell products is a definite plus.

We've invested a great deal in our own systems...

...our expansion programme means we can now offer a great deal to talented professionals

Programming Team Leaders

With around 4/5 years' programming experience, a sound knowledge of database and communications programs and the ability to supervise a small programming team. Experience in writing specifications and scheduling/monitoring projects is essential, as is the ability to guide programmers in solving technical problems as they arise.

operational problems together with the use of optimisation and efficiency techniques on DMIV and TP. Whilst a sound knowledge of GCOS, TSS, JCL, GMAP is essential and a background in COBOL, Fortran and structured program methodology is a distinct advantage, the emphasis is on the ability to absorb a challenging technology and plan for the future.

Data Communications Network Specialists

As our sophisticated, UK-wide Data Communications Network continues to expand, we need several specialists with at least 2 years' experience of communication software and hardware facilities. It is vital that you have diagnostic skills, to enable you to resolve user problems on the network in the most timely

manner. A knowledge of British Telecom current and planned future services, as well as Honeywell Data Communication products would obviously be a great advantage.

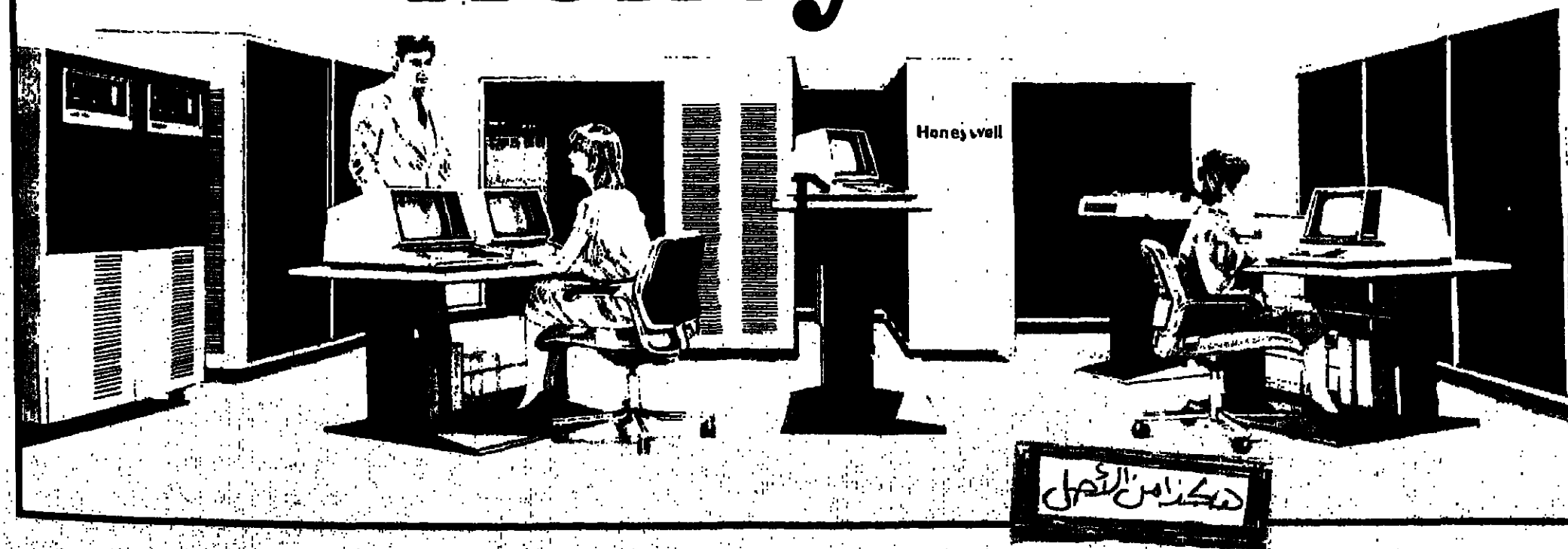
All these positions offer outstanding career opportunities with salaries of up to £14,000 p.a. for the more senior levels — matched only by the challenge and variety of a company committed to innovation and development. The prospects for rapid career development within the progressive Honeywell organisation are excellent.

So, if you can match our systems excellence with your expertise, please write with full personal and career details to Chris Hill, Assistant Personnel Manager, Honeywell Information Systems Ltd., Honeywell House, Great West Road, Brentford, Middlesex.

Systems Programmers

To assume senior roles in the Technical Support Group supporting in-house computing services. Experience should include the installation of software and resolution of

Honeywell



SALES EXECUTIVES

SALES EXECUTIVES — MAINFRAMES

Major international mainframe manufacturer need very high calibre sales executive based North London. Salary £12k plus Car. £30k

SALES EXECUTIVE — SYSTEMS/BUREAU

Well-established and successful systems house and bureau require sales executives based West London. Good salary. Car.

SALES EXECUTIVE — MINIS

To sell established range of minis to end users on commercial territory. Based South Herts covering North London and HC. High basic. Car. To £22k

MINI/MAINFRAME — GOV.

Experienced mini/mainframe sales executive, needed by blue-chip manufacturer to sell into government area. London based. Salary circa £12k. Car. To £28k

MICRO SALES EXECUTIVES

If you are a micro sales exec, looking for high income, please contact us as we are constantly recruiting for leading distributors/manufacturers in London and Home Counties.

Plus many other excellent sales vacancies
Telephone for an appointment

SDS CONSULTANTS
COMPUTER PERSONNEL CONSULTANTS

150 Regent Street
London W1R 5EA
Tel: 01-439 6288

AFTER 5 p.m. and weekends: 0444 468804

Freelancers-immediate requirements

VME, TPMS, IDMS, CICS, DL/I, SYSTEM 34, RSX, CORAL.
Challenging assignments for experienced Analysts and Programmers in North of England, Midlands, West Country and Europe.

VISIONHIRE

Write with full CV to John Royle

COMMUNICATIONS LIMITED

Langley House, Stannyslands Road,
Wimslow, Cheshire SK9 4HA.
Telephone: Wimslow (0826) 632127. 1983



SENIOR PROGRAMMER IN SOUTH MANCHESTER

Programmer required for a rapidly growing company producing microcomputer systems for communicating with remote computers. The work will include Z80 assembler, Pascal programming and a knowledge of CP/M. The appointee is expected to contribute personally to the vigorous development programme and will share in the management and success of the company. Salary negotiable, depending on experience, attitude and commitment.

USERLINK SYSTEMS, 6 Bayside
Brow, Marple, Stockport,
Cheshire. Tel: 061-427 8978

SOFTWARE ENGINEERS

LONDON, HOME COUNTIES, PROVINCES

£14K+BUPA++ Seven software engineers sought for NEW micro projects in control/medical applications.

£10K+++ New turn key house, ground floor opportunity for bright young commercially orientated engineer to join friendly company.

£20K+car++ Leading CAD/CAM manufacturer, 32 bit machines, offers superb opportunity to expand into marketing using your software skills.

£20K+car+++ Senior marketing opportunity for ambitious software engineer seeking career development in commercial micro.

Call Clinton on 01-543 4844

Alltronic People
(Agy)

COBOL in Surrey

ICL 2900 DEC/VAX Micros

Analyst/Programmers to £11,000

This established Management Services Department is gaining an increasingly heavy volume of work from user departments and is in the process of developing new systems. These will be on a variety of hardware—ICL 2900 mainframes (under VME and DME), VAX 11/780 (VMS) and micro-computers, both stand alone and linked to the mainframes. If you have 3-5 years' experience of COBOL programming and design, gained in a VME, DME or VMS environment, these offer you the opportunity of initial training in appropriate areas and other training as your career develops. There are many benefits in addition to the salary, including assistance with removal expenses where necessary.

For these and other positions please contact Joan Ainsworth on 01-681 8311 or write to her at Computer Search and Selection, 6th Floor, Carolyn House, Dingwall Road, Croydon, Surrey, CR0 9XF.

Senior Programmers to £10,500

If you have substantial experience of ICL COBOL, are a good organiser and can offer leadership skills, this position gives you the opportunity to gain supervisory experience and a knowledge of micros. Training in structured programming techniques will be given where necessary. A knowledge of BASIC could be useful.

Programmers to £9,000

A minimum of one year's experience of ICL STRUCTURED COBOL is required for these positions, one of which will offer training in VAX 11/780 COBOL, as some applications are being converted to an on-line environment. The sports and social club is very active.

Computer Search & Selection

COMPUTER SERVICES MANAGER

C. £18,000 plus car

Our client offers an exceptional opportunity for a person with about 12 years' experience to manage its established ICL-based data processing department and to implement and develop on-line information systems.

Reporting to the administration director, the successful candidate will be expected to provide services within a head office environment based in Surrey and technical support to the subsidiary companies.

Aged between 35 and 45 years, he/she will be a self starter, able to communicate to all levels of management and will take responsibility for the effective implementation of a corporate computing policy.

Other benefits include free BUPA cover, five weeks' holiday and a contributory pension scheme.

If you feel you have the qualities we are looking for, please contact:

Telephone or write with your CV to:

Nic Poland,
TLP Leon House, High Street,
CROYDON, Surrey, CR9 3NH
Tel: 01-686 5656

Systems Designer Central London

The Distillers Company (Home Services) Limited provides a centralised service covering the receipt and processing of orders, customer invoicing, accounting, statistical analysis and reporting for all Distillers Company potable products sold in the United Kingdom.

The Company's operations are carried out on two Honeywell 64/DPS 2 mainframe computers and a Level 6 minicomputer.

The Company is currently embarking on a development programme to achieve a total on-line integrated system which envisages a data communications network linked to a number of distribution depots and warehouses and to other Group subsidiary companies.

The Systems Designer will be responsible to the Systems Manager for the design and development of computer-based systems, and for providing advisory and training services to user areas. He or she will also be required to evaluate and report on new technical developments in computer hardware and software, and carry out associated feasibility studies.

Applicants should be aged about 30, and hold an HND in Data Processing, Business Studies or a similar related qualification and have had at least 6 years' experience in a commercial environment. This previous experience should include systems analysis and design, programming (preferably in Cobol), and data communications systems.

In addition to a salary commensurate with experience, the appointment offers a non-contributory pension scheme with life assurance and BUPA membership after a qualifying period, 23 days' annual holiday and relocation expenses, where appropriate.

Please write or telephone for an application form by July 29th 1983 to

G.M. Temple,
The Distillers Company (Home Services) Limited,
49/50 Poland Street, London W1V 3DR
Tel: 01-734 7272

Analyst Programmers

LONDON WCI up to £11,801 [under review]

Computers are playing an increasingly important role in our wide ranging activities at British Gas. In fact, our network and installed capacity ranks us amongst the most advanced and sophisticated users in Europe. We have an immediate need for two Analyst Programmers, at our Halborn Headquarters in London WCI.

THE WORK

- Fortran plus Cobol and Assembler
- Timesharing, batch and real-time
- Univac 1100 installations
- Scientific, engineering and information applications
- Convenient Central London location.

THE PEOPLE

- At least a year's programming experience
- Analysis ability
- Degree or equivalent.

THE REWARDS

- Salary in the range £10,421 - £11,801 [under review]
- Excellent benefits package
- Relocation assistance, where appropriate
- Involvement in an expanding function within the energy industry.

ACTION

For further details ring Dave Taylor on 01-831 6272 ext 4245, or write, enclosing full details of experience, qualifications and age, quoting ref. PS/71 6901/7705/CW, to: Senior Personnel Officer (Engineering), British Gas, 59 Bryanston Street, London W1A 2AZ.

BRITISH GAS



**EAGLE
COMPUTING
SYSTEMS**

SYSTEM ANALYST/ PROGRAMMER

With extensive experience on IBM System 3/32/34/38/38 RPG 11/111. Competitive salary. Paid overtime, 4 weeks paid holiday, family BUPA, expenses, company car, and bonus scheme.

OPERATIONS CONTROLLER

For a client in Bromsgrove, Worcestershire with an IBM System 34. They require a person with sound business experience and a working knowledge of operating the System 34. Familiarity of SDA and DPU is essential and any RPG 11 would be beneficial.

Duties will include job scheduling, report distribution, producing extra reports and enquiries via DPU and creating menus.

Salary negotiable.

Contact Steve Eagle
Eagle Computing Systems
138 Sarehole Road
Hall Green, Birmingham B28 8EE
or Telephone: 021 778 6744.

UNITED MEDICAL SCHOOLS OF QUEEN'S AND ST. THOMAS'S HOSPITALS

JUNIOR PROGRAMMER

(Grade A) required in the Medical School Computer Centre at Guy's. Duties include: advice to staff and students on the use of the University of London Computer network, writing programs and assisting with maintenance of microprocessors in departments. Experience of Fortran and use of scientific languages essential. Salary on scale £A,084-£5,015 (under review) plus £1,180 London weighting.

For further details telephone 01-407 7600, ext. 2443. Apply to: Miss J. Campbell, Deputy Secretary, United Medical Schools, Guy's Hospital, St. Thomas's, London Bridge SE1 8RT, quoting Ref. J.P. 1983.

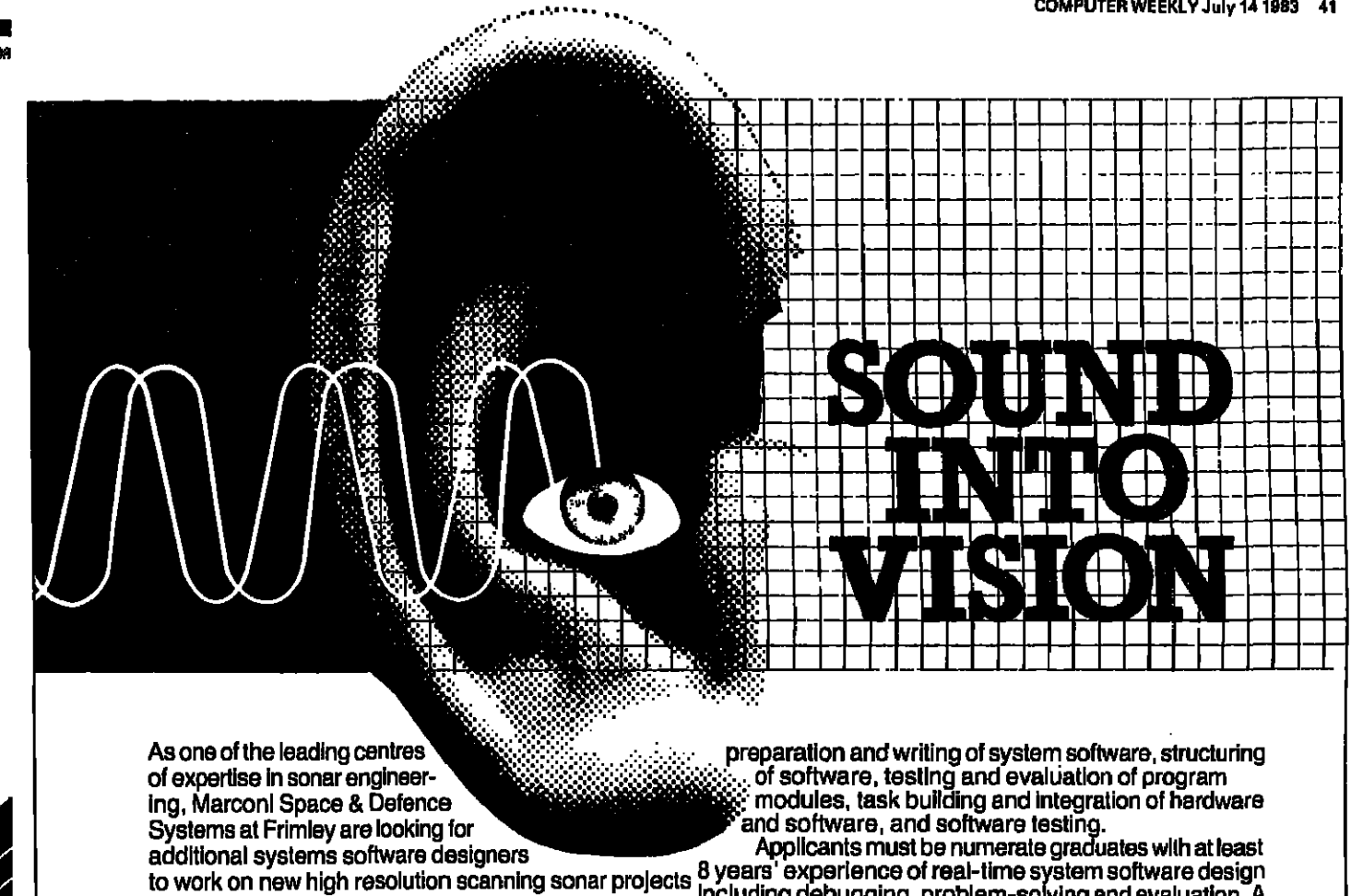
UNIVERSITY COLLEGE LONDON

PROGRAMMER

Applications invited for the post of PROGRAMMER in the newly-established Bloomsbury Remote Sensing Facility. The appointee will be responsible for program development in image processing and graphics and jointly with a senior programmer, for maintaining a service to users.

Knowledge of FORTRAN essential, and of VAX systems or graphics an advantage. Salary from £7,486 to £8,378 (inc. London Weighting).

Further information from and applications to: V.J. Campbell, 26 Bedford Way, London WC1A 2EJ. Applications by 28 July 1983.



SOUND INTO VISION

As one of the leading centres of expertise in sonar engineering, Marconi Space & Defence Systems at Farnley are looking for additional systems software designers to work on new high resolution scanning sonar projects. The main tasks will be the

preparation and writing of system software, structuring of software, testing and evaluation of program modules, task building and integration of hardware and software, and software testing.

Applicants must be numerate graduates with at least 8 years' experience of real-time system software design including debugging, problem-solving and evaluation. A good knowledge of Intel 8086 and its Operating Systems, RMX 86, CORAL 66 and Assembler is essential.

Salaries for these key positions will be extremely competitive and accompanied by an attractive range of benefits.

If you feel that your experience and skills can lead us into a technologically better tomorrow, phone Richard Earnshaw on Camberley 62252, Ext. 347 for an informal discussion.

Alternatively, send your c.v. to

Eric Coburn, Personnel Department,
Marconi Space & Defence Systems
Limited, Chobham Road, Farnley,
Camberley, Surrey GU16 5PE.



Software Designers

Marconi
Space & Defence Systems

CONSULTANT/ANALYST LONDON £11,000-£15,000

Our Client is a small but well established Software House with a number of prestigious companies using their services. Their packages, based on the PICK operating system, are widely used in both the international and home markets. To maintain and increase their high standards of operation they wish to appoint a Consultant/Analyst.

Applicants should have a sound DP background with exposure to either accounting, sales or manufacturing systems and have feasibility study and project management experience. They will probably be aged between 25 and 35 years, educated to degree level and be non-smokers. As there will be a high degree of client contact candidates must be professional in appearance and attitude. They must also be able to advise customers at all levels and present the results clearly and concisely.

In return our client offers an interesting and rewarding position within a friendly but professional team specialising in the PICK operating system and using fifth generation techniques. This is an excellent career opportunity to gain experience in a wide cross section of business applications in a pleasant and flexible working environment. For further details please contact Mike Harmer.

Apex Computer Recruitment Ltd.

404 4821

Apex

London Office:
59 Grosvenor Road,
London WC1X 8TL
Tel: 01-404 4821

Brussels Office:
Rue Clément de Gamond,
24, Uccle 1180 Brussels
Tel: 010 322 377 4193

مركز البحث

TRW**ANALYST/
PROGRAMMER****EXCELLENT**

TRW Carr Limited is a major UK manufacturing division of a large American corporation employing over 450 personnel in this country. The company are on the threshold of major software developments and a significant hardware upgrade which is currently based on an IBM 4331. A vacancy now exists for an Analyst/Programmer to assume a senior role within the department and we are seeking experience in any of the following areas:

- ★ IBM MAINFRAMES
- ★ COBOL
- ★ MANUFACTURING SYSTEMS
- ★ DBS/VSE, CICS, DLI

In return TRW Carr offer competitive salaries and a comprehensive benefits package including annual bonus and company membership to BUPA.

LOCATION: NOTTINGHAMSHIRE

JA22/1

RHM**PROGRAMMER/
ANALYST****c.28,000**

RHM Foods Limited is a successful company within the Grocery Division of the Rank Hovis McDougall Group, manufacturing and distributing a wide range of well-known branded grocery products. Recent expansion within our Management Services Department has created a vacancy for a Programmer/Analyst with sound Cobol programming skills gained on mainframes in a commercial environment. The position involves co-ordinating the work of a small programming team and contributing to detailed systems design. The initial task will be the re-development of an order processing stock on line system. Our hardware is based on two ICL 2856s which support a national terminal network covering Production, Distribution, Sales, Accounting and Personnel systems. We are currently converting to VME 2800 from System 4 DME. In addition to an attractive salary and benefits package we offer good career prospects in a successful and dynamic business.

LOCATION: NW LONDON

JA22/2

**DATA
CONTROLLERS****to £8,200**

Baric Computing Services is an established company owned by ICL and Barclay's Bank providing a comprehensive range of services to industry and commerce. A recently expanded facilities management department has created a requirement for a number of Data Controllers.

These positions will provide a vital interface between the client's management and computer operations, therefore candidates must be able to represent Baric to all levels of users. Duties will include checking job set-ups and outputs, disseminating output, liaising with user management to review processing priorities, maintaining an accurate delay/fault production incident report and controlling the movements of all magnetic media outside the secure area. As part of an established group of companies Baric offer numerous opportunities for career development, excellent salaries and comprehensive conditions of employment.

LOCATION: LONDON

JA22/3

dp**Support Services****Recruitment****Services Ltd.****Freeport, London W5 2ST****01-587 5501****Action..****ring or send the coupon to****B.P. Recruitment****Services Ltd.****Freeport, London W5 2ST****01-587 5501**

Name:

Address:

Home tel:

Work tel:

I am interested in Ref:

The IBM SYSTEM 34/36/38 Recruitment Specialists

PROGRAMMERS/ ANALYST PROGRAMMERS

The Vacuum Unit Ltd. is seeking experienced IBM 34/36/38 programmers for its new division in Milton Keynes. Salary £15,000 - £20,000.

At Financial Insurance they can offer you this... plus responsibility and excellent long term prospects for career progression.

To maintain their outstanding reputation for service additional personnel are being recruited to handle the increase in business.

Based in London you will be joining an established, successful and rapidly expanding organisation who are using mass marketing techniques, involving life insurance and related products, primarily credit life, credit accident and sickness through banks, building societies, finance companies and similar financial institutions.

On site they have both System 34 and System 38. Your immediate involvement will be with System 38 and people are needed who would like to develop their knowledge in this area.

The D.P. department is a compact and friendly site with long term expansion plans. Joining now will give you a great deal of ground floor involvement, plus the advantage of highly competitive salaries suited to your ability and experience.

Please telephone for an early informal discussion to: Richard Milsum on 01-354 1055 during office hours or on 01-958 2553 in the evenings and weekends. Alternatively please send full details to me at:

**MARCH
COMPUTER
RECRUITMENT**

1 NOEL ROAD, LONDON N1 8HQ

01-354 1055

CONTRACT SALES NORTH WEST

Position: Contract Salesperson
Income: Negotiable Package - £15,000+
Office Base: Altrincham, Cheshire

We need an ADDITIONAL SALESPERSON to join us in our ALTRINCHAM office, to assist us in further expanding our business in the North..... but NOT JUST ANOTHER SALESPERSON.

We are looking for a background in SALES, preferably contract consultancy or permanent recruitment, with the personality and AMBITION to fully participate in the GROWTH and SUCCESS of the company.

Reply to:

R. Thomson, Regional Manager - Altrincham (061-928 8302)

D. V. Gibbons, Director - London.

dp SUPPORT SERVICES
A member of the DP Support Services Group

"We look forward to hearing from you."

01-434 2042

7 Swallow Street, London. W1R 7HD

SUPERB CAREER OPPORTUNITIES FOR ANALYST/PROGRAMMERS

The Arabian American Oil Company is the largest oil producing company in the world and as such can offer unparalleled opportunities and challenges to qualified professionals. Such is their commitment to Data processing, they are reputed to have one of the world's widest range of computer applications systems, and are still expanding in all areas. Currently their hardware consists of 3033's, 3081's and a wide range of mini's and micro computers and will shortly be supplemented by further State-Of-The-Art equipment. However, their huge investment in computerisation cannot simply be measured in terms of hardware alone, 'man centuries' of development effort will be invested in a diversified range of applications such as human resources, materials and the Transpeninsular Natural Gas Liquids Pipeline System.

As a result they are now urgently looking to recruit Analyst / Programmers with at least 3 years' experience of PL/1, OS JCL or CMS, a knowledge of IMS would also be an advantage.

Selected candidates, who should be educated to Degree level, will be offered an indefinite term contract, initially on single status, and a range of benefits that can be compared with the best in the Middle East.

Please contact Caroline Tee for an application form and further information on: 01-723 4053

or write to: Comcap Resources Limited, 26 Chilworth Street, London W2 6DT.

The need for computer personnel is on-going and if you are not available at present, you should register now for future opportunities.

**ARAMCO**

COMCAP RESOURCES LTD.

partners in progress

SAUDI ARABIA
£18,000 to £24,000 After Tax

SURNAME _____
ADDRESS _____
TELEPHONE HOME _____
JOB TITLE _____
BRIEF EXPERIENCE _____
OFFICE _____
SIGNATURE FOR MAIL _____
DATE _____

COMCAP RESOURCES FREEPOST LONDON W2 6UR

Analyst/ Programmer As Site Controller

London

c. £12,000

Our client, a subsidiary of a major British company with an international reputation in specialist engineering and manufacturing, requires to appoint an Analyst/Programmer as Site Controller at a small self-contained installation.

The person appointed will undertake on-site systems development, programming and user liaison, and will additionally provide support to the operations function. Reporting to a senior manager in the central Computer Services Department, the job holder will be required to provide a reliable and effective service to local management, and will be supported where appropriate by Computer Services personnel. This is an exceptional opportunity for an ambitious DP professional to achieve career progression, and to acquire management related skills.

Candidates should have recent experience in an ICL environment, with proven analysis ability gained ideally on Financial Applications, and with evidence of a strong background in programming. Self-motivation, and determination to achieve objectives, are essential qualities for this position, and applicants should be able to work on their own initiative or as part of a team.

The attractive remuneration package includes excellent salary, bonus, contributory pension and the usual large company benefits. Relocation expenses will be reimbursed where appropriate.

To apply, please write or telephone for an application form, to JOHN MERCER, at the address below, quoting reference NGW73. Applications, which will be treated in strictest confidence, are invited from either sex.

(4567)

BIS Applied Systems Limited
York House, 199 Westminster Bridge Road
London SE1 7UT
Telephone 01-633 0866

BISApplied
Systems

SOFTWARE QUALITY ASSURANCE

To £14K

Berks

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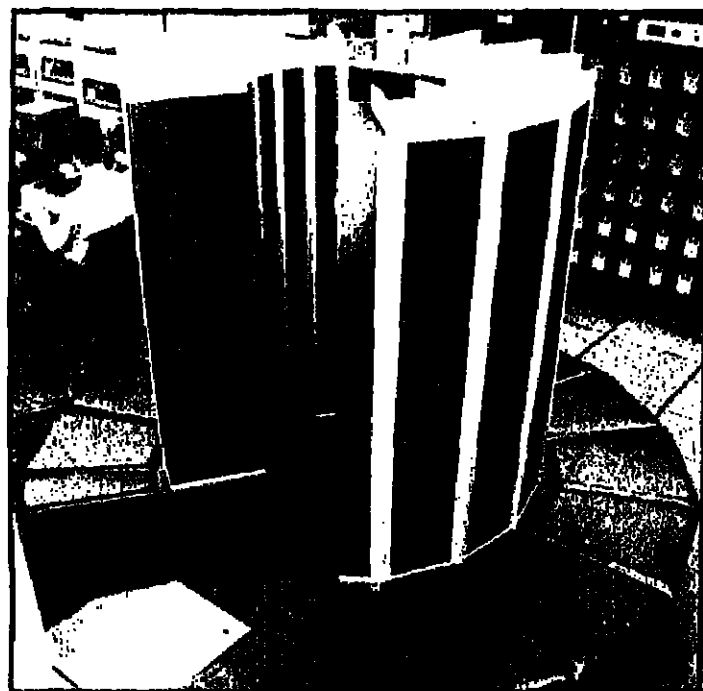
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Cray supercomputers in Paris provide London bureau SIA with immense computing power.

Market for skills lifts

Philip Hunter finds an area where specialists are in demand

THERE never has been a recession if your skills are rare or popular, for example, in IBM CICS, or software engineering. It is in specialist areas like these that there has been a pronounced lift in the market during the first half of this year.

One agency reports that salaries for software engineers have risen by 15% in the last six months. Software houses in general are recruiting more, and in particular, opportunities are springing up in microcomputer applications. The number of software houses specialising in micros has grown dramatically in the last two years.

But the picture is one of two distinct groups. Specialist people, especially in real-time programming, are precious as diamonds. But beginners, particularly those without degrees, are still finding it a struggle to get their feet in the market.

One agency, Comshare, recently received 400 replies to an advertisement for programmers and senior programmers with degrees aged 21 to 30, with salaries of up to £13,000. There were only seven vacancies.

The surplus of junior people is reflected in salaries, which are at best just about keeping pace with inflation, according to most of the agencies and bureaux. A typical programmer with a year's experience can now expect to earn about £7,500.

The market for programmers of Cobol, still by far the most popular language for commercial data processing, is picking up, according to most agencies.

"The market is more buoyant and there are many more jobs than 12 months ago," says Neil Williams, head of permanent recruitment for Knight Computer Services.

The emphasis, he says, is more and more on real-time and IBM CICS.

London-based bureau SIA specialises in technical applications, and is holding its ground in the market. Staff turnover has speeded up as the recession has eased, according to the bureau's Elaine Priestley.

SIA offers users immense computing power, with access to Cray supercomputers at the company's parent company in Paris, and an IBM 3032, as well as Control Data mainframes in London.

Competition is intense between bureaux on the commercial side. Some are offering to nurse their

customers toward in-house computing by allowing them to keep the bureau service going just as long as necessary. The bureaux then hope to benefit by providing consultancy and software for in-house use.

But this is not the gospel according to Applied Computer Technique (ACT), which has a commercial bureau division that is holding up nicely and is hoping to recruit eight programmers and analysts.

ACT's view is that bureaux that offer to help customers wear themselves to an in-house service are merely erecting their own gallows. What bureaux should be doing is following the market closely and cashing in with fresh services as demand dictates.

ACT says it has picked up 50 new customers this year by offering high quality software to handle the government's new statutory sick pay scheme.

The big peddlers of real-time software, companies like GBC Marconi that have a large captive market in defence applications, are for ever moaning about the shortage of skilled programmers. Such companies provide more openings than many for graduates, as they believe that the only way to conquer the staff shortage is by training people up from scratch.

Marconi took 29 graduates last year. Other companies with real-time needs, such as Logica, also have extensive graduate recruitment schemes.

But according to Beryl McLaren of recruitment agency Jupiter, the shortage of real-time people is more apparent than real.

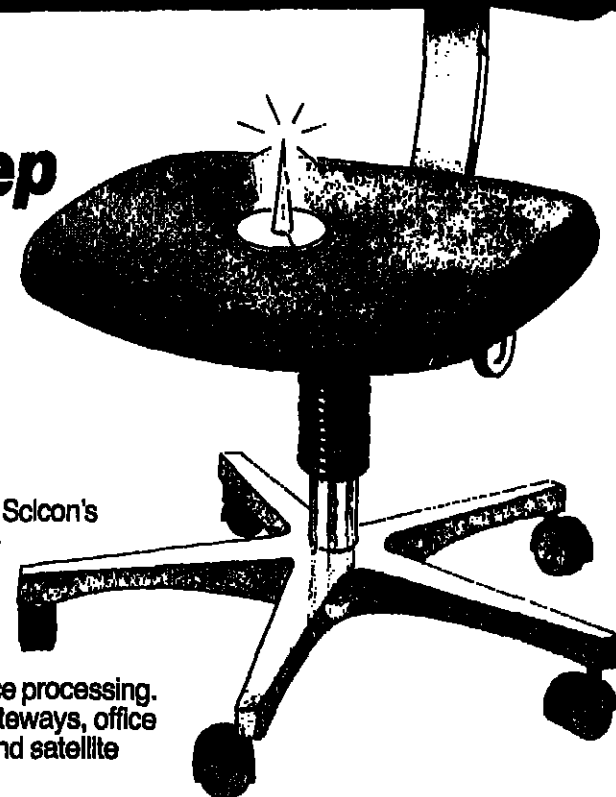
"Marconi finds a shortage because it wants the best people and won't pay the salaries," she says. "There are a lot of really good people around."

There are good opportunities for programmers skilled with fourth generation languages, sometimes called non-procedural languages. Tansent is at present recruiting for its Focus division, and finding people hard to get. "We are always looking for expertise," says Phil Clarke, the company's head of recruitment.

However, while the fourth generation matures, two new members of the third generation of languages are offering some job opportunities. Advertisements for people to program in Ada and C++ are beginning to appear in the classified pages of Computer Weekly.

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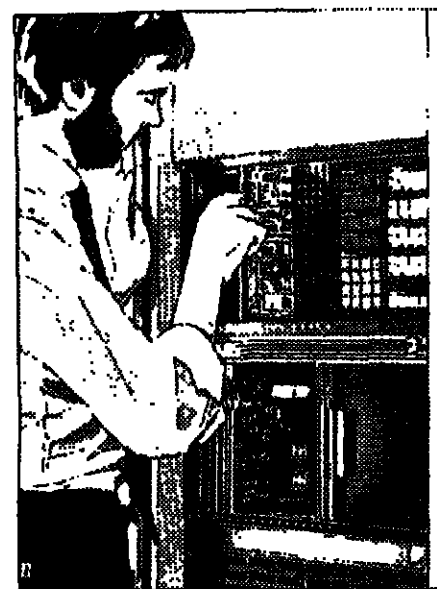
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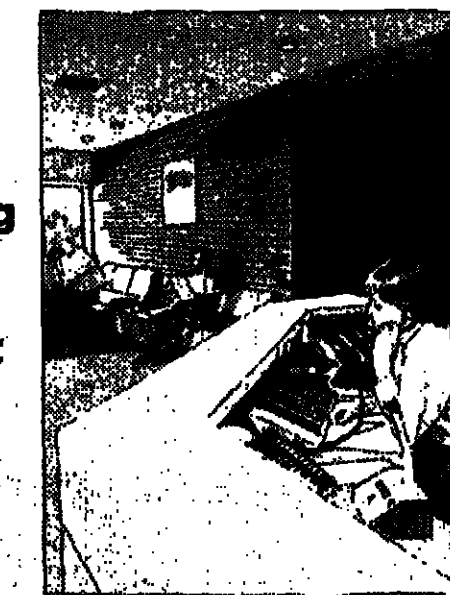
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Open Interviews

Come along to the **Cotswold Room, Selfridge Hotel, Orchard Street, London W1** on **Tuesday 19th July, between 4.00pm and 8.00pm** for a drink, a bite to eat, and an informal discussion with professionals who speak your language. They'll tell you what it's like to work for CASE, let you know about the career opportunities we have to offer, and provide you with literature to take away and read.

Make it an appointment to keep in your diary.

Phone (0923) 33500

Call CASE direct on this number between 9.00am and 9.00pm on Monday 18th or Tuesday 19th July; one of our data communications specialists will be waiting to speak to you.

Or, if you're in the Watford area at these times, why not drop into our offices in Watford Business Park for an informal chat and a chance to look around.

If you would like more information, but it's not convenient for you to come along to our Open Evening and you're unable to contact us during our phone-in, write to, or telephone during working hours, Maureen Greaves, Personnel Manager,

Computer & Systems Engineering PLC., Caxton Way, Watford Business Park, Watford, Hertfordshire, WD1 8XH. Tel: Watford 33500.

CASE

Logitix

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UNIX Programming Mgr

Cambridge: Salaries to £14K

Our Clients have an urgent requirement for a Programming Manager to take charge of a development team currently engaged on a UNIX-based system. Candidates should have a good Honours degree or M.Sc. and at least five years' subsequent industrial experience. Hands-on experience of Assembler and high-level structured languages is required as is a

knowledge of the internals of UNIX or CP/M. As well as the ability to manage the development team, the successful applicant will also be required to directly assist in solving software problems. Generous relocation terms are available as part of a comprehensive package which includes pension and life assurance. Ref: L/26/A

Office Automation

Berks/Hants: Salaries to £16K

A Manufacturer and Supplier of hardware and turnkey systems has a number of outstanding career opportunities for Systems Engineers and Project Leaders. Your academic background should include a good class B.Sc. Honours degree in a numerate subject augmented by two years' software system engineering experience in an environment where office automation projects are under development. In particular your software engineering and systems skills

must have been acquired within one or more of the following technical areas: man/machine interfaces (ergonomics); object based system engineering (pattern and character recognition); and word processing (electronic mail/filing); single and multi-station software integration). Your primary programming skills should include PASCAL or 'C', whilst a supplementary knowledge of an Assembler is a useful asset. Ref: L/26/B

Communications Consultants

Inner London: Salaries to £18K

A highly regarded Systems House is seeking a number of Communications Consultants for its Central London Headquarters. Successful candidates can expect to join project teams undertaking development work utilising the most advanced techniques available and they will, therefore, considerably enhance their skills. Ideally, applicants should be aged 28-35 years and be educated to at least B.Sc. standard in Computer Science or a related discipline.

You will be expected to possess a thorough knowledge of at least two of the following:-

- Communications Protocols e.g. X-25
- ISO standards
- Office Automation Systems and Networking techniques
- Market Development
- Systems Design and Consultancy
- Familiarity with UNIX or a look-alike product

A sound software development background is essential and will preferably have been gained with a computer manufacturer or Systems and Software House. Good personal communication skills are also important since successful candidates will be expected to make presentations to clients and prepare reports and recommendations to existing deadlines. Ref: A8/2

RSX/VMS Progs

London & H. Counties: Salaries to £13K

The Communications Division of a leading Systems Supplier and Consultancy is currently seeking additional Systems Programmers. Suitable applicants should be graduates with a minimum of two years' software or systems design experience within a PDP/RSX-11M or VAX/VMS environment. It is essential that you should offer fluency in Assembler and that you are fully familiar with the internals of RSX-11M or VMS. Additional knowledge of a

high level language e.g. FORTRAN or PASCAL would be a distinct advantage, as would experience of working within a data communications or distributed processing environment. Applicants who demonstrate management potential or those who already have some project leading experience will be considered for more senior positions within the project team. Ref: L/26/C

Systems Software

Herts/Beds: Salaries to £14K

The Applied Systems Division of a leading Systems House and Consultancy requires additional Systems Software Specialists from Programmer to Senior Designer level. All applicants should be educated to B.Sc. standard and have at least two years' experience within a real-time scientific mini-computer or microprocessor environment. It is essential that you offer fluency in an

Assembler and one or more of CORAL, PASCAL, BCPL or 'C'. For the senior positions, applicants should have experience in the specification, design and implementation of systems software. In particular, knowledge of language systems, interface handlers, X-25 protocol techniques or local/wide area networks will be highly desirable. Ref: L/26/D

Operational Research

London: Salary to £13.5K

A number of Operational Analysts are required by this London-based Consultancy. Academically, you should hold at least a first or second class B.Sc. Degree in Mathematics, Physics or Statistics. An M.Sc. or Ph.D. in Operational Research is a distinct advantage and will certainly reflect in the salary offered. Past work experience should include one or more of the following areas: war gaming and

scenario studies, mathematical programming and analytical modelling, navigation systems assessments, reliability studies and data reduction. An important feature of these positions is the ability to communicate software and 'O.R.' techniques to non-technically minded personnel. There will also be a degree of travel to clients' sites. Ref: L/26/E

(Advised by D.C.E.)

(4811)

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An experienced manager is required to manage a small group of multi-disciplined CAD/CAM Specialists.

The successful candidate is likely to have gained considerable experience as a practising mechanical engineer before moving into the area of computing and will now be involved in the application of CAD/CAM to a wide range of mechanical processes.

Preferred age group 35-45.

This position qualifies for a company car, and the usual benefits associated with a position at this level.

CAD APPLICATIONS SPECIALISTS

Application Specialists at both senior and junior level are required for our consulting and applications group. These staff provide technical support to our customers and sales teams. Their responsibilities include acting as a focal point for technical information between our parent in the USA and Europe, together with the provision of market intelligence and liaison with Marketing/Research and Development in the U.S.A.

We are particularly interested in hearing from experienced CAD application engineers operating in the following areas:

- (1) Integrated circuit design.
- (2) Printed circuit board layout.
- (3) Mechanical engineering design (finite element analysis, surfaces and solids).
- (4) Petro chemical applications such as piping, and three-dimensional schematics.

A generous salary and excellent conditions of work will be available to the successful applicants.

Please contact: Mr W. D. N. Davies, Calma Company, Beech House, 373/399 London Road, Camberley, Surrey GU15 2HR. Telephone: (0276) 682021

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The person will be responsible for giving advice and support to Calma personnel and customers across the range of Calma computer systems. Experience in the use of VMS is essential. A minimum of four years' experience of the use of computers in an engineering environment is required. Experience in one or more of the following areas would be an advantage.

Communications: CAD/CAM; Numerical Control; Finite Element Modelling; Data Base Design and Implementation.

SENIOR SOFTWARE ENGINEER (COMMUNICATIONS)

The person will be responsible for giving advice and support to Calma personnel and customers on the communications software available to link Calma systems, both to each other and to other mainframe and mini computers. A minimum of four years' experience of the use of computers in an engineering environment is required.

Salary is negotiable according to experience and benefits include free membership of BUPA, a contributory pension scheme and over four weeks annual leave.

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Calma Company, Beech House, 373/399 London Road, Camberley, Surrey GU15 3HR. Telephone: (0276) 682021

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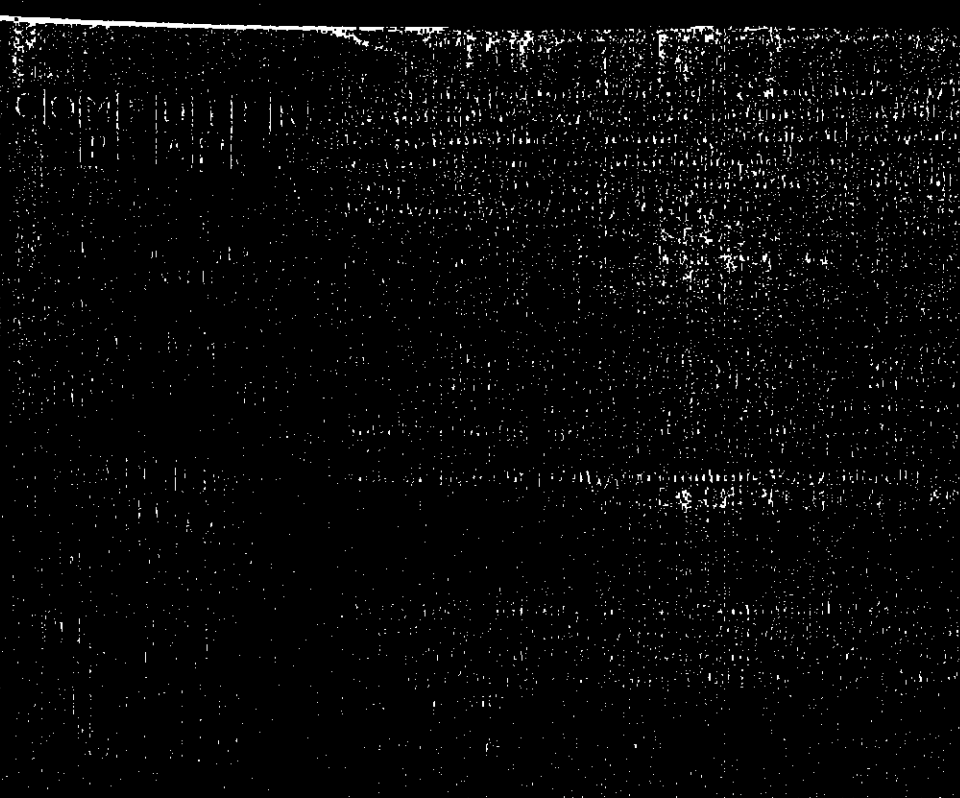
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It is in the supply of micro processor based products for industrial, commercial and office use that the highest rate of growth is being achieved, notably in the areas of communications and information systems. These include data and public message switching; network architectures; telemanagement and telex; data handling; transport applications; and more increasingly, design and support of office products.

Excellent opportunities now exist for suitably qualified staff to join our groups designing and implementing an exciting product range. We particularly wish to recruit professionals with the following skills:-

Systems Designers and Consultants £8k-14k + bonus

Successful candidates are likely to have several years experience of real-time system development and knowledge in the following areas is particularly useful:-

- ★ Networks and international standards ★ Office Products Development
- ★ Communications protocols ★ Hospital laboratory systems
- ★ Traffic control and Airport information

Programmers £7k-9k + bonus

With a minimum 12 months real-time programming experience preferably in CORAL 66 or PASCAL, although FORTRAN and CIS-COBOL will also be considered.

Benefits

- ★ Live and work close to green countryside yet within easy access to excellent recreational facilities of Manchester and the North West.
- ★ Progress in a profitable division of a major British group.
- ★ Variety of a systems house with the security of a computer manufacturer.
- ★ Work on major projects from start to finish.
- ★ Good salary plus quarterly bonus plus overtime at premium rates.
- ★ Where appropriate, excellent relocation assistance.

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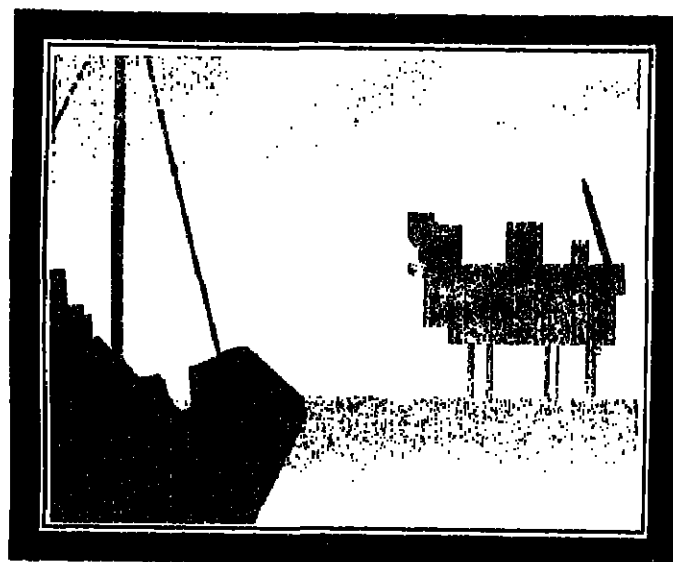
Selling technology

For further details contact Graham Pepper on 061 491 1666 during office hours or Adlington (0257) 480291 evenings and weekends. Alternatively write him at Computer People North (Freepost), Sovereign House, Stockport Road, Heald, Cheshire SK8 2YD.

Interviews can be arranged in Manchester, Birmingham, London or Coventry.

Computer People North

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A tale of two cities.

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The Wythenshawe Division of Ferranti Computer Systems is a market leader in the specialised area of real-time computer systems for industrial process control and monitoring. Based on the highly successful ARGUS 700 hardware and PMS (Process Management System) software, Ferranti systems are installed in a wide variety of industries e.g. off-shore applications, both in oil and gas production; petrochemicals; steel production automation; food processing; electricity, gas and water industries; power station control; T.V. transmitter monitoring and road tunnel environment control.

Continued success in these industries means that opportunities now exist for suitably qualified staff to join Project Groups designing and implementing an expanding range of specialist products. We particularly wish to recruit professionals with the following skills:-

Systems Designers-£8k-£12.5k+bonus.

Successful candidates are likely to have a minimum of three years experience of real-time system development in any of the above industries and knowledge in the following areas is particularly useful:-

- ★ Oil Exploration and Production Industry.
- ★ Telemetry/SCADA system.
- ★ Sequence/continuous control.
- ★ Display systems.

Programmers-£7k-£9k+bonus.

With a minimum of twelve months real-time programming preferably in CORAL 66, although similar high level languages will be considered.

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Selling technology

Benefits.

In return you will have the opportunity to work on major projects from start to finish and enjoy the variety of working for a systems house together with the security of a major computer manufacturer. You will be rewarded with a good salary, together with a quarterly bonus and the opportunity to earn overtime at premium rates. For Aberdeen appointments an additional allowance is payable and where appropriate generous relocation will be offered to either location.

For further details contact **GRAHAM PEPPER** on 061-491 1666 during office hours or Adlington (0257) 480291 evenings and weekends. Alternatively write to him at: Computer People North (FREEPORT) Sovereign House, Stockport Road, Cheshire SK6 2YD.
Interviews can be arranged in Manchester, Birmingham, London or Croydon.

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your appointments register

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Insurance Banking London - H. Counties - N. Eng.

COBOL/PL1/OS/CICS/IMS to £13K
Commercial H. Counties - Midlands - Manchester

PL2/COBOL/MINIS to £12K
Commercial London

HONEYWELL to £12K
Systems Programming experience Middlesex/London

DATA GENERAL ECLIPSE to £11K
Cobol Leicestershire

SYSTEMS 34/36/38/RPG2 to £12K
Insurance/Commercial London/Home Counties

IBM to £16K
System exp. Essex

BASIC to £11K
Mini Computers London

IBM/UNIVAC/COBOL to £12K
On-line/Database Surrey

NCR 8200 to £14K
Financial SW LONDON

Analyst/Progs

PRIME CAD/CAM to £11K
E. Anglia

IBM 34/38/4341 to £15K
London/Home Counties/Norfolk

ICL 1500/ME29/2903 to £12½K
COBOL Essex/Herts

PRIME/COBOL to £11K
Accounting/Commercial Middlesex

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APPLICATIONS ENGINEER to £15K
Peripherals Support/Microprocessor Systems London plus International Travel

IBM SYSTEMS/SUPPORT to £15K
Derby

TECHNICAL MANAGER to £15K
Disk Drive Technology Sheffield

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PROJECT ENGINEER to £11K
Systems/DEC Beds/Manchester

COMPUTER OPERATOR to £7K
System 34/36/38 London

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CAD/CAM to £16K
Real time - Modelling Man/Essex/South West

IBM/BURROUGHS to £15K
Commercial Accountancy London/Surrey/Manchester

IBM/PL1/DL1 to £11K
Database Support Middlesex

ICL/ME29 to £16K
Commercial Design Herts

IBM SYSTEM 34/38 MAAPICS to £13K
Surrey

Software Engineers

CORAL/PASCAL/MASCOT/C to £13K
Communications Glos/Hants/Sussex/Midlands/Manchester

REAL TIME/ASSEMBLER to £13K
Microprocessor Design Suffolk Coast

MILITARY SYSTEMS/RADAR to £14K
Coral - Mascot Hants/Surrey/Essex/S. West

PDP/VAX/INTEL to £13K
Telecomms - ATE Derby/Surrey/London/Kent

COMMS/TELECOMS/MOD to £14K
Mini/Mainframe E. Anglia

HP3000/INTEL to £12K
CAD/CAM/ATE Home Counties

TERMINAL EMULATORS to £15K
C/Assembler London

Snr Appointments

PROJECT LEADER to £15K
Military Systems Berks/Hants

SALES EXECUTIVES to £25K
Micros - Minis Peripherals, etc UK & Overseas

CONSULTANT to £15K
Military/Defence Berks

SYSTEM PROGRAMMING to £15K
Digital/RSTS/E, BASIC Bucks

TEAM MANAGER to £17K
Computer Modelling/Fluid Flow S. London

ICL/PRE- AND POST-SALES SUPPORT to £16K
Berks

SOFTWARE SECTION MANAGER to £18K
Pascal/C/Microprocessor Essex/Middlesex

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From an established client base throughout the U.K. Lorien Computer Services Limited is now probably the fastest growing recruitment consultancy in the country. Our successful London activities are shortly to move to new offices in the West End from which a further considerable expansion of the company's activities will take place.

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Outstanding opportunities are now available to join this highly regarded, stable and professional national recruitment organisation. We are seeking high calibre personnel to work in the following established areas of our business:-

- 1) Agency recruitment- which is supported by a generous advertising budget and proven company techniques.
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- 3) Recruitment consultancy-to develop advertising and recruitment campaigns for specialist personnel on behalf of clients throughout the U.K.

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Base salaries are amongst the best in the industry with good fringe benefits. Our remuneration package is generous with

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In order to fill one of these newly created positions which are currently available you should ideally possess at least one of the following skills:-

- 1) Experience of recruitment consultancy, a successful and professional approach to your work and an ability to meet targets.
- 2) Success in, at least, one other area of DP sales
- 3) A good technical DP background allied to an outgoing personality, plus a capacity for hard work in order to obtain the outstanding rewards which are readily available in this demanding and stimulating field.

Interested applicants should contact our Managing Director, **LEN CRAY**, either by letter or by telephone during business hours at the office on 01-439-8985. Alternatively, you may telephone him during the weekend on 0484-21492. Naturally, all applications will be treated in the strictest confidence.

LORIEN
COMPUTER SERVICES



First floor, 35 Piccadilly,
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Software R&D in Ireland

Ireland, with its highly progressive industrial development policies and excellent leisure facilities, offers the ideal environment for those contemplating a significant career move.

Many of the top names in high technology electronics and computer industries have established successful operations throughout Ireland—companies like Prime Computer which three years ago moved a substantial portion of its manufacturing capacity to Dublin.

Prime Computer, a Fortune 500 Company, develops and manufactures high performance minicomputers for worldwide distribution. As part of a continuing expansion programme in Europe, Prime has extended its international operations by establishing a Software Research & Development Department located within its highly successful and modern manufacturing plant on the outskirts of Dublin.

We are seeking qualified, experienced Software Designers with exceptional technical ability to join this new team developing complex systems software products in the following areas:

- Distributed commercial processing
- System security and recovery
- Performance measurement
- Software development aids

Computer Search
& Selection

There are immediate vacancies at the following level:

Project Leader

Probably over 28 years of age, you should have a good engineering/science degree or equivalent qualification with a minimum of eight years' experience in system software development and support. You should be able to demonstrate an ability to lead project teams of three or more people and have a proven track record of successfully implementing major projects in at least one of the above areas. You should also be experienced in the use of at least one high level language such as PL/I or PASCAL. Knowledge of Assembler level languages would also be an advantage. Successful candidates will work in an excellent modern office, with individual terminals linked to the dedicated in-house development computer.

These positions attract a very competitive salary and benefits package including—relocation to Ireland, sick pay scheme, private medical care scheme and subsidised restaurant facilities.



Candidates who feel they have the personal qualities and experience to be successful in these highly rewarding positions should apply immediately in strictest confidence to Edith Watson.

Computer Search and Selection,
Hamilton House, Marlowes,
Hemel Hempstead, Herts HP1 1BB.
Tel: Hemel Hempstead (0442) 40761.

PRIME

CONTRACTORS

ICL

ICL GEORGE 3 COBOL/PLAN PROGRAMMERS
ICL GEORGE 3 COBOL/PLAN ANALYST/PROGRAMMERS
ICL GEORGE 3/ME COBOL PROGRAMMERS ANAL/PROGRAMMERS
ICL VME COBOL PROGRAMMERS ANAL/PROGRAMMERS
ICL + FUNCTIONAL/DATA ANALYSIS ANALYSTS
ICL IIMS DATABASE ADMINISTRATOR
ICL IIMS DATA BASE DESIGNERS
ICL EXPERIENCED ANALYSTS
ICL 2900 IOMS VME/8 ANALYST/PROGRAMMERS
ICL 2900 IOMS + TPMS VME/8 COBOL ANALYST/PROGRAMMERS
ICL 2900 VME/8 SCL COBOL (PENSIONS EXPERIENCE) ANALYST/PROGRAMMERS
ICL 2900 VME/8 IOMS (INVENTORY CONTROL) ANALYST
ICL 1900 GEORGE 3 COBOL/FORTRAN TEAM LEADER
ICL 2900 DME GEORGE 3 IOMS COBOL ANALYST/PROGRAMMERS
ME 20 TIME TP IOMS COBOL PROGRAMMERS/ANALYST PROGRAMMERS/DATABASE DESIGNER
ICL VME 2900 IOMS TPMS PROGRAMMERS
ICL 2900 VME/8 IOMS TPMS PROGRAMMERS
ICL 2900 VME/8 SCL AUG/SEPT SYSTEMS PROGRAMMERS

IBM

IBM SYSTEM 38 MANUFACTURERS APP PROJECT LEADER
IBM MAIN 4 COBOL EXPERT
IBM IAS/ADF COBOL PROGRAMMERS
IBM OS/VS COBOL PROGRAMMERS
IBM VM/CMS DOS/VS PL/1 DL/1 PROGRAMMERS
IBM PL/1 FOCUS ANALYST/PROGRAMMERS
IBM 43XX DOS/VS COBOL CICS VSAM PROGRAMMERS
IBM IAS DB/DC COBOL ANAL/PROGRAMMERS + DATABASE ANALYSTS
IBM 36XX VM/370 or VM/SP ASSEMBLER SYSTEMS PROGRAMMERS
IBM MVS COBOL IAS DB/DC ANALYST/PROGRAMMERS
IBM PL/1 MVS + + + + IBM MVS PL/1 IAS JACKSON PROGRAMMERS
IBM OS/MVS COBOL/ASSEMBLER PROGRAMMERS
IBM DOS CICS/COBOL PROGRAMMERS
IBM DOS COBOL CICS (COMMAND) DL/1 SELCOPY PROGRAMMERS
IBM COBOL ANALYSTS
IBM SERIES 1 APS MACRO ASSEMBLER REAL TIME PROGRAMMERS

NORTHERN

IBM 4341 IOMS CICS (MACRO) COBOL PROGRAMMERS

OTHERS

VAX COBOL PROGRAMMERS
VAX EXP + ANY OTHER COBOL PROGRAMMERS
WANG VS COBOL PROGRAMMERS
CTL COBOL PROGRAMMERS
DATAPoint RMS DATABASE PROGRAMMERS
VAX VMS PASCAL PROGRAMMERS
UNIVAC 1100 IOMS 1100 COBOL PROGRAMMERS
CORAL 66 OR SEC 4000 REAL TIME VARIOUS LEVELS
URGENT TECHNICAL AUTHOR
T.I. 9000 ASSEMBLER PROGRAMMERS
DEC POP 11 RSX 11/M + RMS FORTRAN 77 PROGRAMMERS
D.S. ADF RMF OR COBOL AND BUSINESS BASIC PROGRAMMERS
HONEYWELL LEVEL 66 IDS/7DS PROGRAMMERS
BURROUGHS 6700/8000 CAMAC IOMS 2 GENCOS PROGRAMMERS
MOTOROLA 68000 PASCAL OR ANY HIGH LEVEL LANGUAGE TEAM LEADER
UNIVAC TIP DPS COBOL PROGRAMMERS
D.S. IOMS COBOL ANALYST/PROGRAMMERS OR ANALYSTS
INTEL 8085 ASSEMBLER AND REAL TIME PLM PROGRAMMERS
MOTOROLA 68000 PASCAL SOFTWARE ENGINEERS
MOTOROLA 68000 PASCAL/ASSEMBLER SOFTWARE ENGINEERS
INTEL 8086/8 IOMS - 86 PL/M REAL TIME PROGRAMMERS

OVERSEAS

BELGIUM
WOLFE SEL ON POP 11 RSX11 PROGRAMMERS
START DATE NOW THROUGH TO NOV. FOR 6-12 MONTHS

HOLLAND
PHILIPS P300 RTL SEPT FOR 6 MONTHS

U.S.A.
HONEYWELL LEVEL 66 COBOL DMS
HONEYWELL LEVEL 6 COBOL

FOR ANY OF THE OVERSEAS CONTRACTS PLEASE CONTACT:

JOAN LOVEJOY (0442) 40761

Computer Search & Selection Ltd
Hamilton House, Marlows
Hemel Hempstead, Herts. HP1 1BB

(0442) 40761

6th Floor, Carolyn House, Dingwall Road
Croydon, Surrey CR0 9XF

01-681 8311

**Computer
Search &
Selection**

MICRO TRAINING CONSULTANTS

WEST LONDON

£10-£11K + CAR

Our client, the UK operation of this leading microsoftware company who specialises in financial packages, are seeking a training consultant who can complement their 1983 expansion programme. The prospective candidate should come from a training environment who can demonstrate experience in the following areas:
Developing and conducting training courses for the dealer and End User market.
Experience of ACCOUNTING applications and Office Productivity Systems.
You must be mature, self-motivated, bright and have an outgoing personality with good communicative skills.
An excellent remuneration package is offered including overseas travel, company car, bonus and BUPA.
For more information on the next career move you'll never regret, ring SHIRLEY FRANCIS, quoting Ref: 8828.

(4843)

**Lloyd Chapman
Associates**

123, New Bond Street, London WY1H 0HR 01-489 7781

VISION FOR ROBOTS!

C. London

C £10-12K

The robotics market is now growing rapidly - and to make these systems more versatile, the race is on to equip them with artificial vision.

Our clients already offer a powerful and flexible DEC-based image processing product - and they plan future developments around the M68000.

If you're well-qualified, have three years + SCIENTIFIC/REAL TIME SOFTWARE experience, and want to hear more, Call me, Vincent Mallon, on 01-648 6641 - NOW!

(4582)

ABEXECUTIVE (KINGSTON) LTD.

IF YOU ARE CALLING ON MICRO OR MAINFRAME INSTALLATIONS AS A SALESMAN OR ENGINEER

you could earn extra money with very little effort

Write briefly to Box No. 1287 telling us what you do and giving a phone number. Your reply will be treated with confidence, and our employees are aware of this advertisement.

(4571)

ZAT ASSEMBLY LANGUAGE

Real Time applications programmer for exciting music/video control system.

For further information, salary and conditions call 01-903 6281.

(4574)

HONEYWELL PROGRAMMER

for a

New DPS7 INSTALLATION

This is an interesting opportunity for an experienced Honeywell Programmer to join a small team developing a new database system.

You should have three years' experience on an L84 or DPS7 computer using COBOL and IDS II. Salary negotiable.

Write giving full details of qualifications and experience to: Peter Barnes, Medical Insurance Agency Ltd., BMA House, Tavistock Square, London WC1H 9JD.

(480)

CAD SOFTWARE ENGINEERS

Following the highly successful launch of the Artworker CAD system for the design of printed circuits, Wayne Kerr Datum Ltd. are seeking additional Software Engineers to further strengthen the design team.

These well rewarded positions offer challenging work and excellent opportunity in an exciting market.

Applicants should apply to:

Wayne Kerr Datum Limited
Woolborough Lane
Crawley Industrial Estate
Crawley, W. Sussex
Tel: 0293 543266



(4870)

DATAPROCESSING - OFFICE AUTOMATION

MOTOROLA as a leader in leading edge technology is now seeking to achieve a rapid expansion of the sales of the office automation segment of its INFORMATION SYSTEMS GROUP.

Since this is a new operation in the United Kingdom, the opportunities are attractive and challenging. The rapid establishment of the company in the United Kingdom market place for office automation products requires that only applicants with a proven successful career and experience in dataprocessing or office automation will be shortlisted.

There are currently openings for:

SALES EXECUTIVES

Candidates must have successful selling experience in distributed data processing and/or office automation products and these will be the over-riding selection criteria. Field and in-house product familiarisation training will be provided. A generous commission scheme will be operated.

SENIOR SYSTEM ENGINEERS/ PRE AND POST-SALES SUPPORT

Applicants should have experience in software operation and maintenance and the ability to liaise with customers on systems software will be an added requirement.

CUSTOMER SERVICE ENGINEERS

Customer service/field service engineers are required with an established record of maintaining dataprocessing and office automation systems. FNC, HND and equivalent qualification will be preferred. Standby and call-out payments apply plus overtime.

We are offering attractive salaries for all the above posts, plus the use of a company car. Other benefits include: Life Assurance, Health Plan, Pension Scheme, all non-contributory, 20 days annual holiday.

Please telephone for an application form:

Miss S. J. Bevan, Senior PA to Managing Director, Motorola Limited, Information Systems Group.

01-626 2191

(480)



MOTOROLA
INFORMATION SYSTEMS GROUP

Plotting possible futures

Opportunities now exist within an internationally successful organisation to develop high technology display systems at their recently established division in Surrey. Whilst providing the security of a large company the division is small enough to operate autonomously having a young management team which has already created a friendly and dynamic work environment.

SENIOR ANALYSTS TO £12,500 PROGRAMMERS TO £11,000

Young and enthusiastic Senior Analysts and Programmers are invited to join small highly creative design teams utilising the latest techniques on 8086/80286 micro processor hardware.

Ideally you will have experience in some of the following:-

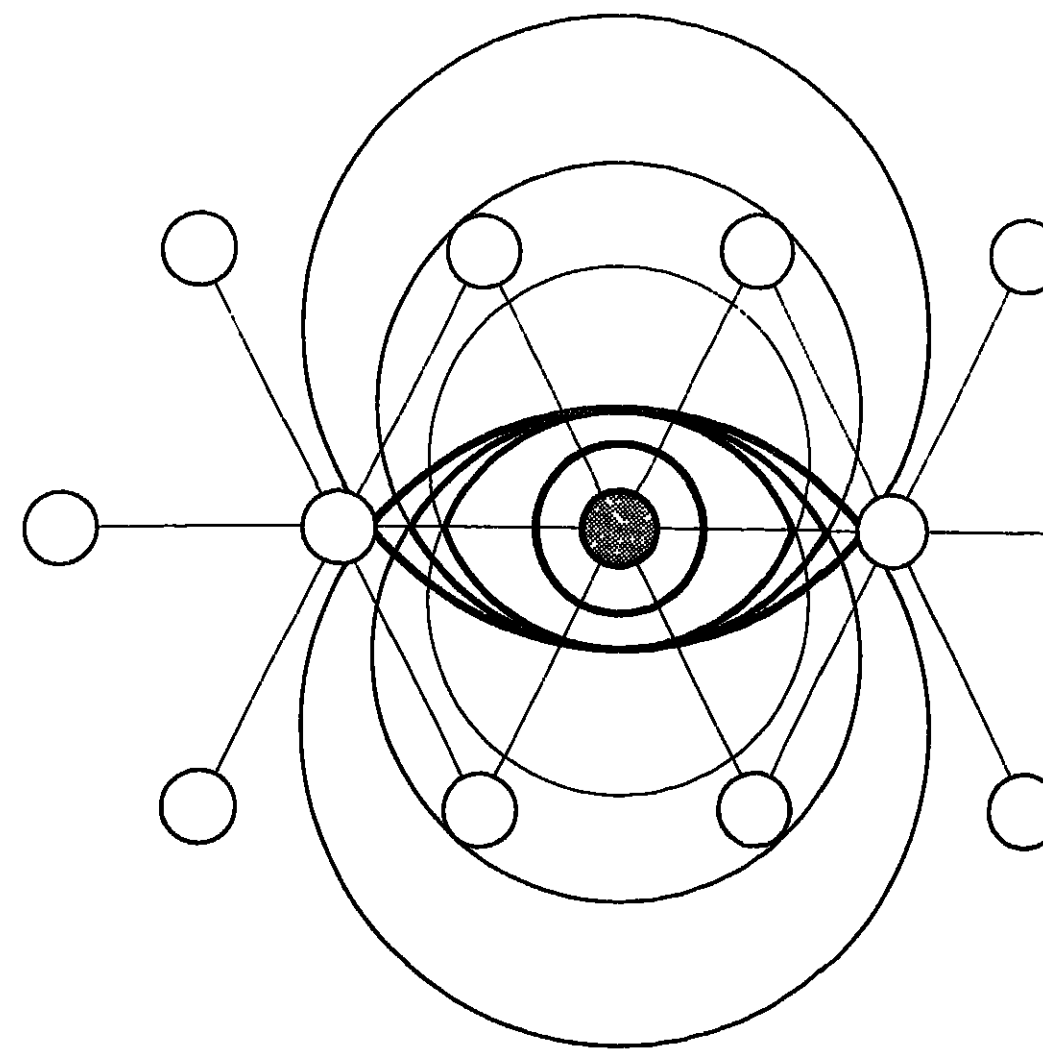
HIGH LEVEL LANGUAGES (RTL/2, PLM/86, CORAL)
REAL-TIME SYSTEMS
MULTI TASKING, MULTI PROCESSING EXECUTIVE
HOST/TARGET DEVELOPMENT USING VAX 780

You will become involved with:-

LANs (ETHERNET)
X25 PACKET SWITCHED NETWORKS
DISTRIBUTED DATABASE SYSTEMS
RASTER GRAPHICS
GRAPHICS KERNEL SYSTEM
DIAGNOSTIC SOFTWARE

For further details regarding these vacancies please telephone in strictest confidence Miles Richards on 01-938 1804 (24hrs) or 01-847 2385 (7pm-9pm).

(4610)



Information Processing People

20 Kensington Church Street, London W8 4EP
Telephone 01-938 1804 Telex 22861

Senior Systems Software Engineer (Mini/Micros)

to £15,000 + Car

*Birmingham
(Generous relocation)*

Overseas Travel

Our Client, a hugely successful public group, operate at the forefront, of what can genuinely be described as, 'leading edge' microprocessor based technology. Their, already highly acclaimed, product line has achieved remarkable success, and they have made substantial investment in a new product which will not only consolidate their dominant position at home, but further establish their reputation abroad.

Their exceptional, and continued, growth and success has now created an additional requirement within their small specialist team for an experienced Software Technician. The successful Candidate will have sound experience of system software, and specifically operating systems and languages, and it is essential that this experience has been gained within a mini or micro environment. Whilst experience of any of the following - MS-DOS, CP/M 86, UNIX, PASCAL - would be most welcome, overall ability is more important.

This is a key appointment, and is a significant opportunity for technical advancement, and unrivalled prospects within a highly professional and dynamic Organisation.

The skills sought will be highly valued, consequently an extremely attractive salary and benefits package is offered, which will include company car, and very generous assistance with relocation.

For further information, and to arrange a confidential interview, please contact our Advising Consultant Peter Lees on 021-236 3781 (24 hour answering service) or 0902 632141 (Evenings and Weekends).

Technical, Sales & Management Appointments

ISAN

Specialist Computer Recruitment Ltd

SOUTH
James House, 46 James Street,
London W1M 5HS
01-639 0071/408 0461

MIDLANDS & INTERNATIONAL
35-37 Great Charles Street,
Queensway, Birmingham B3 3JY
021-236 3781

NORTH
International House, 84 Deansgate,
Manchester M3 2ER
061-433 0427

BELGIUM
Avenue Louise 327,
Box 4, 1050 Brussels
010 322-648 7181/71

HOLLAND
Willemsparkweg 82,
1071 H.M. Amsterdam
010 3120-7609/7

01-639 0071

DALROTH

MANAGER COMPUTER SYSTEMS DEVELOPMENT

Abou Dhabi

Salary to £235,000
Plus benefits

Our Client, a major Middle Eastern Banking Organisation with IBM System 34, 4341 & 4331, is using MIDAS for the Treasury and Merchant Banking activities and CAPITI for domestic banking on the IBM hardware. They will be introducing the CAPBANK system on an NCR 8565 for the domestic banking front office applications.

This position is a new one and the objectives are:

- to assist the Data Processing Manager in the computerisation of the Bank's operating and administrative systems and to manage the Bank's ongoing computer operations including systems analysis, programming, data preparation, equipment operation and maintenance.
- to develop the long-term computerisation programme for the Bank and ensure that short-term recommendations are compatible with the long-term programme and to supervise systems analysis design and programming stages for all new systems.

The ideal applicant will have extensive systems development experience, very considerable banking experience gained on IBM and NCR equipment and a knowledge of the products being used. However, applicants with extensive systems development and management experience, preferably gained in a banking or financial environment on either NCR or IBM equipment, will also be considered. Experience in the Middle East would be an added advantage.

A very attractive package will be offered to include Married or Single status, free furnished accommodation, medical insurance, car allowance, leave flights, etc.

The Client will be in the UK to conduct final interviews during early August.

For further information, please telephone Roger Allington or Sarah Oram on 01-493 2947 9am to 9pm, or weekends Roger Allington on Little Gaddesden (044284) 3536 quoting Ref 9991.

DALROTH & PARTNERS LTD, 4 HALF-MOON STREET, LONDON W1
Telephone 01-493 2947

SOFTWARE DEVELOPMENT

RSX 11 - MACRO

SALARY: CIRCA £10,000 - WALTON-ON-THAMES

Due to the success of an exciting new project an interesting and challenging position has been created for development work associated with real time computer-based monitoring systems.

For this position we require an innovative person who can work under his/her own initiative, within a small, highly-motivated team.

Applicants must have previous DEC Macro experience and preferably possess a technical qualification to at least HNC level.

In addition to an attractive negotiable salary a range of large company benefits are offered, together with excellent career opportunities.

Please send full details, or telephone for further information to Sue Hayes, at Chubb Alarms Limited, 42-50 Heronham Road, Walton-on-Thames, Surrey KT13 1RY. Tel: Walton-on-Thames (09322) 43851/48141 Ext. 190.

JUNIOR PROGRAMMER N.E. Surrey

Substantial group of Timber and Builders Merchants require an Assembler Programmer to strengthen their ICL System 25 development team. Previous experience of System 10 or System 26 would be an advantage.

The position carries a salary of up to £5,750 dependent on age and experience and 21 days' holiday plus bonuses.

Please apply in writing with C.V. to:

D. Lillard, Group Data Processing Manager

Sabah Timber South East

(Merchants) Ltd
Xylon House, 1 Central Road
Worcester Park, Surrey KT4 8DN

GROUP COMPUTER DEVELOPMENT MANAGER

The I. Wiley Group is engaged in the construction industry, operating through a number of autonomous subsidiaries located in the U.K. and overseas, using a variety of mainframe and microcomputers on both accounting and technical applications.

The Group wish to appoint a Computer Development Manager to plan, recommend and implement a systematic development of the utilisation of modern computer techniques, and to co-ordinate that development with the U.K. subsidiaries, including the maximisation of existing resources.

This will be a senior appointment and the successful candidate must be able to communicate with senior management, accountants and engineers in practical terms, in order that the Group can take full advantage of developments in computer technology to assist in the management of its business. Knowledge of the construction industry is essential.

Salary is negotiable, with benefits package including company car, pension scheme and (if appropriate) relocation expenses.

Please apply giving full details of qualifications and career to date to:



The Group Financial Director,
F. J. C. LILLEY PLC,
331 Charles Street,
Glasgow G21 2QX

Top flight programmers

SAS
© Systems
© Applications
© Software

A Division of TRIAD Computing Systems Limited based in Guildford, Surrey needs talented and adaptable programmers to work on:

- real-time systems for industry and the public sector
- engineering and scientific applications
- basic software with special emphasis on database and file management.

We are looking for people with high ambitions and offer rapid progress on merit, to positions of responsibility in systems design and project management. Salaries to £11,000 p.a. plus bonus and usual benefits.

TRIAD
Computing Systems Limited
Write to: Attn: Mr. P. F. Patten
Systems & Applications
108 Woodbridge Road, Guildford, Surrey GU1 4PV. Telephone: 0445 2778

ADVANCED SYSTEMS (UK) LTD require SALES OR DP PROFESSIONALS FOR ACCOUNT MANAGERS (Sales)

£26K + BMW or equiv + benefits

- THE COMPANY
Advanced Systems (UK) Ltd is part of a multi-national Corporation and leading producer of training products and services for the DP industry with an annual growth rate in excess of 35%.
- THE JOB
To extend and support the existing Customer Base by aggressively selling and promoting our extensive range of multimedia and computer-based training courses and related services.
- THE PERSON
The successful candidates must be able to clearly demonstrate either:
A. A proven and successful record in executive level sales. Experience within DP or related industries would be an advantage.
or
B. The ability to successfully utilise extensive DP knowledge - gained whilst working as a DP professional (S/A etc.) - in a sales environment.
- THE BENEFITS
An attractive compensation plan including a basic salary of five figures, car, expenses and benefits package.

To arrange an interview telephone:
Southern Office
Mr Tony Koch 01-492 8011
Northern Office
Mr Brian Farrow 01-228 0758

AST
The Total Training Resource

Strathclyde

STRATHCLYDE POLICE DEPARTMENT

COMPUTER MANAGER

Salary Scale - S06 - £16,536-£17,736
Kilbryth Police Office, Parkfoot Street, Kilbryth

Applicants should be suitably qualified and have substantial experience of large scale inter-active systems.

The successful applicant will have overall technical responsibility for the proposed Scottish Criminal Records computer installation and its associated services which will operate on a 24 hour, 7 day basis.

Duties will include defining initial staffing levels, day to day management of the computer operation, liaise with staff and users, training of staff and users, liaise with suppliers to ensure satisfactory service and maintenance of equipment, annual budget of the unit and development and extension of equipment and programmes.

Application forms may be obtained from the Assistant Director of Manpower Services, Glasgow Sub Region, Strathclyde House, India Street, Glasgow to whom completed forms quoting Ref: G4319 should be returned by 29th July 1983.

R.M.O. McCULLOCH
Director of Manpower Services
Strathclyde Department of Education (4842)

Anaerobic Digester Research and Development Unit

Research Assistant

(One year post)

Computing

Funded by the Ministry of Agriculture Fisheries and Food

Salary: £4,680 - £5,808 p.a. inc.

Applications are invited to join a multidisciplinary team working on various aspects of anaerobic digester technology. The post is for a graduate in an appropriate discipline for one year to write a computer program to assess the economics of anaerobic digestion plant. A prior knowledge of anaerobic digestion is not essential but applicants must have experience of writing interactive FORTRAN programs for microcomputers. Experience with databases would be an advantage. The program will be written for the CASU Mini CII microcomputer running under CP/M.

Further particulars and application forms are obtainable from:
The Personnel Officer, The Polytechnic of Wales, PONTYPRIDD, Mid-Glamorgan, South Wales. CF 37 1DL Tel. (0443) 405133 ext. 2021 (Please quote Ref. No. MAFF4)
Closing date: 28th July, 1983.

PORTLAND TRAINING COLLEGE FOR THE DISABLED
MANFIELD, NOTTS.

Applications are invited for the post of
CHIEF INSTRUCTOR
to head the Business Studies Department of this College, which provides residential vocational training for adults.

Reporting to the Training Manager the responsibilities of this post would encompass the organization and day-to-day operation of a department which provides a variety of training courses for up to 60 students.

Candidates would be expected to have experience of training and instruction in business subjects and a relevant qualification in teaching or training would be appropriate.

The College is about to introduce the use of microcomputers and related technological equipment as a means of training students for the business world. It would therefore be necessary for the Chief Instructor to be fully conversant in the use of such equipment as a learning system, and to be able to introduce its use into the department.

Further particulars and application form may be obtained from the Principal, Portland Training College for the Disabled, Heron Wood, Nottingham Road, Mansfield, Notts. NG18 4TL. Telephone: Mansfield 782141.

Computer Division

Senior Computer Operator to £9,399

To assist the Shift Leader with the efficient and effective running of a computer operations shift

A two-shift system is currently in operation using ICL 2980 and ME28 hardware, running under CME (VME/B) and DME (George 3) and TME. An expanding communications network based on DRS and 7602 systems is also in use.

A minimum of two years' relevant experience is required and a demonstrable knowledge of VME/B is desirable. Further technical training will be given as necessary.

- 20-26 days' annual leave plus statutory holidays
- Interest-free season-ticket loan
- excellent tube, road and bus links

For an informal discussion about the post, ring Peter Blantz, Computer Manager on 01-748 2077, ext 204.

Application forms from London Borough of Hammersmith & Fulham (Personnel), PO Box 807, Tel: 01-741 0904 (24-hour answering service), quoting reference FC 50. Closing date: 1st August, 1983.

APPLICATIONS WELCOME FROM DISABLED PEOPLE
Hammersmith & Fulham

DURHAM UNIVERSITY
Digital Systems Design for
Computer Graphics
Applications are invited for a
RESEARCH ASSISTANT

to work on an established SERC project in the field of computer graphics, to produce a very high speed display processor using special purpose LSI circuits. These integrated circuits are being designed as part of the project and will be fabricated by the SERC Microelectronics Laboratories. Candidates should preferably have postgraduate industrial or research experience in any of the following fields - systems programming, graphics software development, digital electronics design. It will be possible to register for a higher degree based on this work.

The appointment will be for two years from as soon as possible

Initial salary on scale 18 £2310-£7180, plus superannuation

Applications (three copies) naming three referees should be sent to the Registrar, Science Laboratories, South Road, Durham DH1 1LE by 12 August 1983, from whom further particulars may be obtained.

(4858)

TEESIDE POLYTECHNIC
Department of Chemical Engineering
LECTURER II/SENIOR LECTURER IN CHEMICAL ENGINEERING

Applications are invited from candidates interested in joining the staff of the Department of Chemical Engineering. The Department possesses a new 1000 litre stirred reactor fitted with an absorption column. Plans are advanced in accordance with the development of a system to treat waste water from the chemical industry. The post would involve a substantial part of the day-to-day running of the Department's computing facility. An interest in the development of software would be an advantage. Salary in Scale £5,828-£8,702 p.a.

Application form available from Personnel Office, Whiteknights House, University of Reading, Whiteknights, Reading, RG6 2AH. Please quote Ref. T11A.

Closing date for applications: 31 August 1983.

(4858)

TECHNICIAN

(Grade 4)

required in Department of Land Management and Development, University of Reading, to take responsibility of the day-to-day running of the Department's computing facility. An interest in the development of software would be an advantage. Salary in Scale £5,828-£8,702 p.a.

Application form available from Personnel Office, Whiteknights House, University of Reading, Whiteknights, Reading, RG6 2AH. Please quote Ref. T11A.

Closing date for applications: 31 August 1983.

(4877)

UNIVERSITY OF ESSEX
Department of Electrical Engineering Science
Senior Lecturer/Reader in Computing Engineering

Applications are invited for the post of Senior Lecturer/Reader (salary £13,515-£16,925) for appointment from 1st October, 1983, in the field of Computer Engineering. Candidates should have an honours degree and relevant experience, together with a strong research background in computer engineering. Applicants with an all-round ability in hardware and software with a special interest in microprocessor applications are encouraged to apply.

The person appointed will be expected to teach courses at undergraduate and graduate level and to take part in and initiate research in the field of computer and microprocessor engineering. The Department has a long history of research in the area of computer engineering and is well known as an information technology and the post seen as enhancing these activities.

Applications (nine copies) including a curriculum vitae and the names and addresses of three referees, should reach the Registrar, University of Essex, Wivenhoe Park, Colchester CO4 3SQ from whom further particulars may be obtained by 11 August 1983.

(4868)

Imperial College of Science and Technology Administrative Computing Development Officer

The College is in the process of expanding its administrative computing service in order to establish a set of unified data based systems which the College will develop. An important additional requirement is to develop a management information system for senior management. The College has a student population of 4,700 and a staff of 3,000.

An experienced manager is required for the development and direction of this project. Candidates should have experience in the design and use of data bases for administrative purposes. Proven success in the management of small software teams and in the development of structured, fully documented software is important.

Appointment will be made in the salary range £13,515 to £16,925 per annum plus £1,186 London Allowance.

Further particulars and application forms are available from the Personnel Secretary, Imperial College of Science and Technology, London SW7 2BZ, to whom applications should be submitted by 12 August 1983.

(4873)

OXFORD UNIVERSITY COMPUTING SERVICE

COMPUTING IN THE ARTS - ADVISOR

Oxford University Computing Service has a vacancy for an external advisor in computing in the arts, for which it is a leading exponent. The successful applicant will be responsible for supporting and advising external users of the national facilities which the Service provides, including a Lasercomp phototypesetter, XDEM optical character reader and package software for computing in the arts.

The appointment will be within the University Research Staff scale 18 (£3,310-£9,875 per annum) according to age and experience. The post is established for three years.

Further details and application forms may be obtained from:
The Director's Secretary
Oxford University Computing Service
13 Banbury Road
Oxford OX2 6NN
Telephone: (0865) 58721

Closing date for applications: 5 August 1983.

(4864)

ROYAL FREE HOSPITAL
Department of Medical Physics

COMPUTER SCIENTIST

An honours science degree graduate is required to join a small team engaged in the development of a system to treat cancer using a computer controlled radiotherapy unit. The post will involve programming a Hewlett Packard computer using FORTRAN. A knowledge of radiotherapy, medical physics or basic electronics would be advantageous.

Further details from Dr. J. A. Brace, telephone 01-794 0500, ext. 3066.

Salary scale: £7,274 to £8,468 p.a. inc. LW.

Application form and job description available from the Personnel Dept., Royal Free Hospital, Pond Street, Hampstead, N.W.3.

Please quote Ref. 1485. Closing date July 28, 1983.

HAMPSTEAD HEALTH AUTHORITY (4877)

CALDERDALE METROPOLITAN BOROUGH COUNCIL EDUCATION
THE PERSONAL WHITLEY COLLEGE OF FURTHER EDUCATION FRANCIS STREET, WHITLEY, LEEDS LS15 3JZ
Tel. Holford 9221

Required from 1st September 1983 a
**TEMPORARY LECTURER
I/II IN COMPUTING**

Application forms and further particulars obtainable from the Personnel Office (Ref. 1485) required.
Closing date 28th July, 1983.

(4841)

CANNOCK CHASE DISTRICT COUNCIL
TREASURER'S DEPARTMENT

COMPUTER STAFF

The Council is installing an ICL ME29 to replace computer facilities currently being provided on an agency basis by other Authorities.

A comprehensive development plan is being prepared for the introduction of computer systems for a wide range of the Council's services and it is anticipated that these will be implemented within a two year period. This will provide an exciting opportunity for staff to participate in the installation of new equipment and be responsible for the development of a new and comprehensive service. In order to ensure a smooth transition to the new arrangements the following staff are required.

**COMPUTER MANAGER
GRADE PO1(3-7) £10,539-£11,703**

This is a key post and the successful applicant will be responsible for the setting up of all computer systems in accordance with the development plan. Applicants should have a wide computer experience in Local Government (preferably with the ME29), experience in management and be able to liaise with users at all levels.

SYSTEMS ANALYST/PROGRAMMER - SCALE 6/SO1 - £8,154-£9,660

Applicants should be experienced analysts/programmers and have a sound knowledge of ICL software preferably in a local government environment.

TRAINEE ANALYST/PROGRAMMER - TRAINEE GRADE £2,976-£5,841

This post will be suitable for applicants who already have some experience in computers in local government and wish to develop their careers further.

The Council will assist with relocation expenses in appropriate cases.

Application forms, together with further particulars are available from the Secretary, Cannock Chase District Council, P.O. Box 28, Beecroft Road, Cannock WS11 1BG or telephone Cannock 2621, Ext. 484. Completed forms should be submitted by August 1st, 1983, for the post of Computer Manager and for the other posts by August 15th, 1983.

(4818)

SENIOR PROGRAMMER £11k-12k pa

We are one of the leading local authorities in the introduction of Data Processing Systems and have a lively and professional development section where high standards and training are key priorities.

An IBM 4341 is in use with DOS/VS, CICS and COBOL. A 3083E is planned for 1984.

We are seeking a Senior Programmer to work in one of our development teams.

He/she should have a minimum of four years' in Data processing with at least two years' COBOL and CICS experience, and must be able to provide guidance to more junior programmers. Experience of structured programming would be useful. There will also be opportunities to help in analysis and design tasks.

In return, we offer a friendly working atmosphere in pleasant modern offices off Kensington High Street, excellent training facilities, five weeks' holiday, flexitime and an active sports and social club.

For further details, ring Tony Eldred on 01-837 5464, ext 330.

The Royal Borough of KENSINGTON AND CHELSEA

Application forms quoting Ref CW322 from the Personnel Service, The Town Hall, Hornton Street, London W8 7NX. Tel: 01-837 8582 (24 hour answering service)
Closing date for application 25 July, 1983.

Applications are welcome from suitably qualified disabled persons.

(4814)

GREENWICH DEVELOPMENT COMPANY
INFORMATION TECHNOLOGY CENTRE

GENERAL MANAGER

£12,000 (includes outer London Weighting)

We are looking for a General Manager with a knowledge of micro technology and experience in the education and training of young people. Above all we seek somebody with enthusiasm for this new and exciting project and with the ability to develop this enterprise. Information Technology Centres are imaginative products of a joint initiative between the Department of Industry and the Manpower Services Commission. They are designed to help young unemployed people get training and work experience in the area of new technology.

The Centre will develop products and establish services for the local community. It will offer a computer service to small businesses, community organisations and others who may have a need. Together with Thames Polytechnic it is anticipated that a range of electronic products will be designed and introduced for manufacture.

Further details and an application form can be obtained from:

Ms. B. Shaw, c/o Greenwich Development Company, Room 105, 29-37 Wellington Street, Woolwich SE18 7LJ
Tel: 01-854 8888 ext 2024

Closing date: Friday 5th August.

The Greenwich Development Company is an equal opportunities employer. All applicants will be considered irrespective of sex or country of origin.

(4899)

SMR

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A Sales and Marketing Services Company

SALES EXECUTIVES WATCH OUT - HERE COMES THE FUTURE!

Whether or not you are currently considering a change of employment, you ought to be asking yourself if your company has the necessary resources to assure its own survival as well as your career development in this industry of technological leap-frog. Does it have:

- ★ A comprehensive range of computer systems?
- ★ Extensive research and development resources?
- ★ International coverage
- ★ Recent new product announcements?
- ★ Complete in-house training facilities?
- ★ Industrial and commercial applications packages?
- ★ Large user base?
- ★ Good prospects for advancement into management?

If so, you may already be employed by our client. If not, here's your chance to advance into a company with real opportunities for personal development. All you need is a proven ability to:

- ★ Negotiate at board and shopfloor levels.
- ★ Sell computer related systems in a creative manner.
- ★ Produce an effective selling strategy.
- ★ Deal with new and established accounts.
- ★ Qualify sales prospects perceptively.
- ★ Consistently achieve sales objectives.
- ★ Co-ordinate and motivate a sales team.
- ★ Handle a wide range of computer applications.

Vacancies currently exist in:

MANCHESTER LEEDS BIRMINGHAM LONDON

and successful candidates can expect a remuneration package which includes a company car, pension fund and health insurance, as well as on-target earnings of

£25,000

Please supply complete career details to Alasdair Scott in London, or Roger Dodd in Lichfield, quoting reference SSA/073.

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29 Oxford Street,
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Technical Support People
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If you consider yourself to be well above average in terms of systems and programming experience and/or applications knowledge, if you are not satisfied with run-of-the-mill job opportunities, then you are probably the kind of person most likely to benefit from our specialised permanent and contract recruitment services for accomplished and discerning technicians.

Please contact Neil Skidmore or Elaine Westwood.

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Lichfield, Staffs. (05432) 56612

EDUCATION DEPARTMENT

Computer Electronics Supervisors (2 posts)

£9,060-£9,945

We are seeking persons with proven experience in either electronic hardware design, maintenance and construction or computer programming and allied skills for an Information Technology Centre to be opened shortly in the Chatham area. The aim of the Centre, which is jointly sponsored by the Kent County Council and Marconi Avionics, is to help unemployed young people gain work experience and training in such fields as electronic computer assembly, control systems, computer maintenance, digital techniques, word processing and teletext.

Experienced persons are required to supervise groups of trainees, therefore an empathy for the young unemployed is essential.

The appointment is for an undetermined period and will exist only whilst the Programme is in being. Preference given to unemployed persons having the necessary qualifications.

For further information telephone Mr J. Richards (Manager) on Medway 676928.

Job description and application form returnable by 30th July 1983 from W. H. Petty, Esq., the County Education Officer (PA), Springfield, Maidstone, Kent ME14 2LJ (SAE please).



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SALES EXECUTIVES MIDLANDS & SOUTH WEST

The Distribution Industry offers enormous potential for systems houses, particularly our client who is one of the highest respected, as well as one of the largest and longest established in the business with a very powerful and well established product offering.

We are seeking candidates with sales experience within the Distribution Industry who would appreciate a move to a company with real technical excellence and career opportunities for achievers.

Please contact Roger Dodd in Lichfield, quoting reference DSF/073.

SALES EXECUTIVES NORTHERN ENGLAND MIDLANDS LONDON & SOUTH

Many new company and/or new product situations turn out to be a career cul-de-sac. Here is an opportunity for experienced computer salespeople to be part of a new phase of expansion within an established major international manufacturer offering real career prospects, a comprehensive range of computer systems, extensive training facilities and a very powerful new product announcement. A company car is provided and on-target earnings will be

£25,000

Please contact Alasdair Scott in London, or Roger Dodd in Lichfield, quoting reference SSB/073.

BRANCH MANAGER LONDON

This is a very special opportunity for an accomplished young Sales Manager to advance into the challenging role of general management; someone with an eager, burning ambition to make a name for himself; an entrepreneur who can maximise the potential of a solution based computer business.

A seven figure turnover already exists over a number of well established vertical markets with considerable scope for creative business development.

The compensation package is negotiable with anticipated earnings around

£28,000

plus usual senior management benefits. Please contact Alasdair Scott in London, or Alan Williams, quoting reference WMD/073.

LONDON & SOUTH

29 Oxford Street,
London W1. (01) 734 9776

MIDLANDS & NORTH

Cathedral House, Beacon Street,
Lichfield, Staffs. (05432) 56612

Answering Service after 6 pm and weekends
SALES TRAINING, MARKET RESEARCH, RECRUITMENT

SALES EXECUTIVES MANUFACTURING SYSTEMS EAST MIDLANDS & LONDON

If you are currently involved with manufacturing systems, you will be very much aware of our client's outstanding product; a real market leader in mini-computer based manufacturing systems.

If you want to increase both the quality of the product you are selling, as well as your career prospects, this is an ideal opportunity. This of course, is based on the assumption that you already have experience of selling manufacturing related products.

Contact Alasdair Scott in London, or Roger Dodd in the Midlands, quoting reference DSG/073.

SOUTH REGIONAL SALES MANAGER £30,000

If you are an experienced and successful sales manager with some knowledge of data communications equipment, this could be the best job opportunity you have had in a long time. Based in the Home Counties, our client will already be well known to those applicants already in the communications business as an outstanding, successful, enthusiastic and happy company.

Please contact Alasdair Scott in London, quoting reference SMC/073.

SALES EXECUTIVES EDINBURGH/ ABERDEEN

We can assure you that whatever assumptions you make about these two jobs based on the following features/benefits, will be an undervaluation of their real potential.

- ★ Latest product announcements at least a year ahead of competition.
- ★ Over 25 new product announcements at least a year.
- ★ Most of current management graduated from within the company.
- ★ Vacancies result from expansion.
- ★ We are talking about actual earnings, not make-believe, when we talk about

£25,000 + Company Car

If you are an accomplished computer industry salesperson residing in Scotland, please call Roger Dodd in Lichfield, quoting reference DSE/073.

SALES BIT

Quality of management - 60

Sales people have role in credit chasing

CHASING overdue accounts could be seen by the salesman as a degrading and unrewarding process. It is easy to feel embarrassed about harassing people for money, and even if carried out successfully, it results only in the payment of money that you assumed was rightly yours when you sold the product.

It is a poor alternative to spending one's time pursuing new business.

The salesman must see the process as an essential and justifiable sales related activity rather than a time-wasting imposition.

It is important to realise that when a client does not pay on time, he is failing to honour his promises; he is defrauding his supplier of the interest the outstanding money could be generating; he may be totally dissatisfied with his purchase; he is establishing grounds for the salesman having to return the related commission; he may be going bankrupt! So it is essential that appropriate action be taken promptly and stringently, for the salesman and the company have much to lose by assuming that responsibility for chasing overdue accounts resides elsewhere.

Maintenance of effective credit control procedures and the communication of up-to-date information must rest within the accounts department, as should the initial

was not disputing the bill or dissatisfied with the product; it just didn't want to pay. Eventually we decided to take legal action, but as we had not had this kind of situation before, decided to contact our solicitor.

He said: "Don't spend your money on litigation, until you have tried nuisance and intimidation."

(Yes, it's such good advice it even rhymes!) So, we created a barrage of telephone calls and letters to the debtor's key people and sent one of our consultants (6ft 5in, 17½ stones) to ask nicely for the money.

Within 10 days the matter was settled whereas we would probably be chasing the money still had we chosen to go to court; to say little of the cost.

The company didn't pay up because it didn't like the look of the big guy, or because it realised the error of its ways; it paid because it wanted us off its back; it couldn't put up with the nuisance and embarrassment. We were dealing with what we call a bad debt situation as opposed to an overdue account and we had no intention of doing further business with the company.

Generating money and sustaining a continuing business relationship usually demands less dramatic actions. Even so there is no substitute for prompt and positive action, face-to-face collection and

There is no substitute for prompt and positive action, face-to-face collection and continued badgering. After all, your money is sitting in their bank account when it should be earning interest in yours or offsetting your expensive overdraft

stages of automatic chasing procedures but once an account becomes seriously overdue it is the salesman's task to visit the client and resolve the problem.

However, I believe it is important that salespeople are kept informed about every stage of credit chasing right from the first reminder. Often a personal reminder from the salesman at an early stage can avoid a confrontation later.

Legal action is far removed from being an absolute solution and this reality is fully exploited by many unscrupulous companies. They realise that litigation is an expensive and time-consuming process that most suppliers would prefer to avoid. Further, they know they can hang on to their money right up to the day of the hearing, pay at the last minute, and get away with it; many months having passed in the meantime. They also appreciate that, even if they do get involved in legal proceedings, the court's sympathy is usually bestowed on the debtor rather than the plaintiff.

Consequently, you could find your outstanding account being spread in easy payments over the next millennia.

In fact, getting a court settlement in your favour could be the worst thing you ever did.

The Small Claims Court can, depending on the size of the debt you are chasing (the maximum is £500), bring about much swifter settlement than the normal judicial procedure; but this size of debt is far below the value of a typical computer industry invoice. Nonetheless, the same risks of unsatisfactory settlement still apply.

My own company recently had a badly overdue account with a program package company. It

continued badgering. After all, your money is sitting in their bank account when it should be earning interest in yours or offsetting your expensive overdraft.

It is costing you money to be an involuntary, interest free funding agent. So it is important to question your reasons for continuing to supply those organisations which consistently disregard the terms under which you agreed to do business together.

I recall a situation in Birmingham where a man bought, from a well-known national supplier, a pair of shoes which subsequently proceeded to fall apart. However, the shop manager would not replace them. So the man made himself a sandwich-board to which he appended the shoes and a legend to the effect "These shoes were bought from this shop, they fell apart and they won't change them. Inspection welcome". Then he arrived outside the shop, on the following Saturday morning.

Apparently the shop did little business until the man was given a new pair of shoes and encouraged to go home.

I do not suggest you should organise demonstrations outside every client who owes you money, but it does suggest that companies have to be embarrassed into payment when they have insufficient integrity to do otherwise.

Alan Williams

PUZZLE ANSWER

9 6 2 3 3
6 2 5 1 3 +

1 5 8 7 4 6

Scientific Databases

A vacancy exists in the Database Section of the Computing Division, Rutherford Appleton Laboratory for someone to work on Scientific Databases.

The work is of an interesting and varied nature supporting Scientists using database techniques in their projects, providing advice and assistance and investigating new techniques in the area of databases.

The Laboratory, in collaboration with Universities, supports exciting research programmes, both here and abroad, in Physics, Astronomy and Information Technology.

Applicants should have a degree or equivalent in a Scientific, Mathematical or Engineering subject and have expertise in, at least some of the following:-

- Systems Analysis, Design and Implementation
- Programming in FORTRAN
- Data Analysis
- Scientific Data Handling

Training will be given where necessary; Scientific education or experience would be an advantage.

Appointment will be made within one of the grades depending on age, qualifications and experience.

Scientific Officer £5,682-£7,765
Higher Scientific Officer £7,149-£9,561

Some assistance with the expenses incurred in house sales/purchase may be available. Appointment as Higher Scientific Officer requires a good honours degree and several years relevant experience.

For an application form please write to Recruitment Officer, Science and Engineering Research Council, R A L, Chilton, Didcot, Oxon, OX11 0QX. Tel: Abingdon (0235) 445435 quoting Ref VN154.

Closing date: 4th August 1983

serc Rutherford Appleton Laboratory

DATA PROCESSING DEVELOPMENT & TRAINING OFFICER

MALAWI

The Government of Malawi requires a Data Processing Development and Training Officer for the Computing Functions of the Malawi Railways Improvement Project - a 5 year programme of aid and manpower and track rehabilitation.

The Officer would have overall responsibility for the control of the Data Processing Function; identification, planning and implementation of computer systems in accordance with the company's objectives; setting standards for analysis and programme work.

Qualifications: Applicants, who should be British citizens, should be graduates with experience of running a Data Processing Department together with personal programming and analysis experience. Prior experience in an ICL environment is desirable.

Appointment: 18 months in the first instance. Posting: Limbe; salary (UK taxable) in accordance

with qualifications and experience plus a variable tax free overseas allowance currently in the range £1,480-£3,165.

This post is wholly financed by the British Government under Britain's programme of aid to the developing countries. In addition to basic salary and overseas allowances other benefits normally include paid leave, free family passages, children's education allowances and holiday visits, free accommodation and medical attention.

For full details and application form, please apply (not later than 26 July) stating clearly post applied for, quoting ref. IAH 367 DSM and giving details of age, qualifications and experience to: Appointment Officer, Overseas Development Administration, Room AH361, Abercrombie House, Eagleham Road, EAST KILBRIDE, Glasgow G75 5EA.



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